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ABSTRACT

This teacher's manual is a resource to assist teachers in expanding and refining their repertoire of teaching strategies and to guide them in instructional planning and decision making when teaching reading in the content areas. The manual does not prescribe a particular style of teaching--it is of value to teachers as they consider their curriculum objectives, the nature and needs of their students, and their personal teaching styles. The first section of the manual discusses three interactive elements of reading: what the reader brings to the situation, the learning context that defines the task, and the characteristics of the written text. The second section discusses the roles of: metacognition and reading to learn; reflective questioning; discussion; and reflective conversation. The third section presents a framework for instrucational planning. The fourth section focuses on six assumptions about learning. The fifth section presents 40 popular classroom teaching strategies that can be adapted for students from elementary through high school. Contains 97 references and 11 figures. (RS)

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Teaching Reading in the Content Areas

If Not Me, Then Who?

Teacher's Manual

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Acknowledgments

Over the years, professionals have attended a number of workshops and received handouts that only occasionally identify the original source. They take up residence in one's file, and as time passes it is easy to forget from whence they came. Whenever possible, we have tried to acknowledge the author; if we have inadvertently included an individual's work without giving credit, please contact McREL and we will rectify this error in the next edition.

Both the author and McREL staff have used these ideas with educators in workshops, and the feedback from participants has enhanced the form in which they are presented here. A special thanks to all who contributed to this edition.

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Teaching Reading in the Content Areas:
If Not Me, Then Who?

"Reading transcends the mere transmission of information: It fosters an imaginative dialogue between the text and the reader's mind that actually helps people to think."

Stratford P. Sherman
Author of "America Won't Win Till It Reads More"

Rationale

"No, I don't read much; actually, I've not read a book all summer. I guess the only thing I read is the sports page," commented my daughter's boyfriend. Knowing that Brian is valedictorian of the senior class, I asked him about the reading involved with his assignments in school. He commented, "Oh, I read what I need to in order to get by, but nothing more. I know I should read, but I just don't get into it."

Brian is not an atypical student. Many students admit they don't read very much—sometimes even the required homework. The number of readers in the United States is continuing to become smaller, with a steady and significant decline in the number of book readers under age twenty-one, according to Dr. Bernice Cullinan of New York University. Approximately eighty percent of the books in this country are read by about ten percent of the people. She reports on one large group of "atypical" fifth graders surveyed as to the average amount of time they spent reading outside of school:

- 50% read four minutes a day or less
- 30% read two minutes a day or less
- 10% read nothing

This same group of children watched an average of 130 minutes of television per day.

The state of literacy in the United States today is declining so precipitously, while video and computer technologies are becoming so powerful, that the act of reading itself may well be on the way to obsolescence. A major concern is that many upcoming teachers actually dislike reading and avoid it whenever possible. A study conducted by two Kent State University education professors found that when students entered their children's literature course, they arrived with very negative attitudes toward reading in general and, more specifically, toward literature. The study stated that more than one-fourth of these

potential teachers confessed to a "lifelong discomfort with print," and many confessed that the way they made it through literature courses was by relying on *Cliff Notes*, book jackets, or any piece of reading that would allow them to get by (Manna & Misheff, 1987).

Our society is becoming increasingly *aliterate*: people who know how to read but don't choose to read. These are people who glance at the headlines of a newspaper and grab the television schedule. Most aliterates watch television for their news, but the entire transcript of a television newscast would fill only two columns of the *New York Times*. They do not read books for pleasure, nor do they read extensively for information. An aliterate, then, is not much better off than an illiterate (Healy, 1990). Yet, people become good readers *only* by reading—a lot!

The evidence seems clear—people don't read, and if or when they do, they don't seem to enjoy it. The reading problem results not only from disinterest in reading but also from increasing numbers of students with poor reading skills. One of the most common complaints among this generation of readers is that books are "too hard" or "boring" (Healy, 1990). Many students have trouble with the mental organization and sustained effort demanded by reading. They wrestle with the author's unfamiliar point of view and struggle to make personal and meaningful connections while reading. Because many students have difficulty with classroom reading demands, teachers at times lose confidence in using reading assignments. They resort to telling students what they need to know instead of having them read it or they frequently turn to other media for instruction, all the while knowing that significant portions of the curriculum need to be print-based, and that students need to develop effective reading behaviors in order to survive and be successful.

Teachers know that reading is an intricate and difficult process, and they often struggle with the following questions:

- What are the dynamics involved in being an effective reader?
- What learning environment will open doors to create readers?
- What must happen in the mind of the learner for reading comprehension to result?
- What teaching strategies will help to develop readers who can learn from a wide variety of print materials?

The information in this publication is designed to help teachers answer the above questions.

This publication is also a resource to assist teachers in expanding and refining their repertoire of teaching strategies and to guide in instructional planning and decision making when teaching reading in the content areas. It is not intended to prescribe a particular style of teaching—one "best" method or model; it will be of value to teachers as they consider their curriculum objectives, the nature and needs of their students, and their personal teaching styles.

There are many aspects to consider when teaching reading in the content areas. As educators, we need to understand the big picture about learning, the premises that guide the teaching of reading in content areas, the vast array of reading strategies available, and then how to carefully use this information to impact all learners. These four major areas comprise the contents of this publication:

1. **Three interactive elements of reading**: What the **reader** brings to the situation, the learning **context** that defines the task, and the characteristics of the written text, or the **text features**, which focus the teacher's instructional planning, are discussed.

2. **Strategies**: 40 popular classroom teaching strategies that can be adapted for students from elementary through high school and that are appropriate for helping students in all content areas are highlighted.

3. **Strategic teaching**: As a decision maker, the teacher must consciously plan for teaching reading in all content areas, and this section shares a framework for instructional planning.

4. **Six assumptions about learning**: The research on learning serves as the foundation for this publication, and so the critical implications for instruction are discussed. This section can serve as the introduction or as the conclusion to this publication. Big-picture thinkers may enjoy the information up front while other readers may want an understanding of the reading process and strategies first.

These four sections are presented graphically in Figure 1 on the next page.

Teaching Reading in the Content Areas: If Not Me, Then Who?

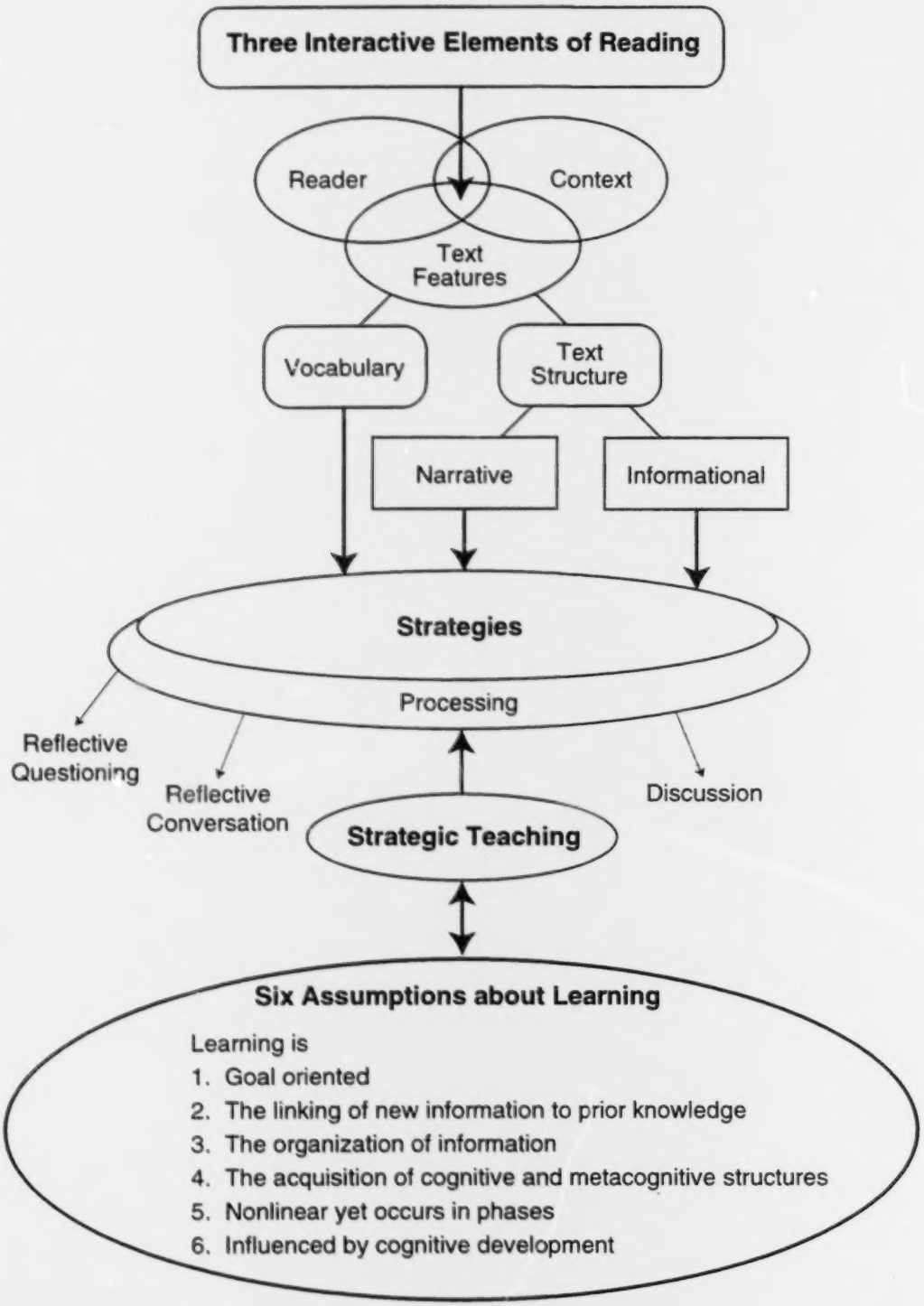


Figure 1

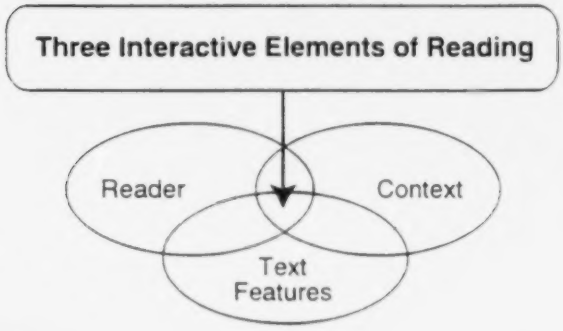
Section 1

Notes

Three Interactive Elements of Reading

"Improvements in higher-level reading skills cannot come about simply by an emphasis on reading instruction in isolation from the other work students do in school. Students must learn to read in all content areas. Every teacher must be a reading teacher."

Rachel Billmeyer, 1995



Introduction

The essence of teaching reading is helping students to make connections. By making those connections, the reader constructs meaning from text, thereby gaining comprehension. Since the early 1980s when the new definition of reading prevailed, educators have learned that reading is not simply the act of decoding the printed word or reproducing what the author wrote; rather, it is an active process of creating meaning (see Figure 2). No two people have exactly the same comprehension of a text because no two people read text under exactly the same conditions. Three conditions, or elements, working interactively determine the meaning a reader will construct from a text. They are: the **reader** and what he brings to the situation; the learning **context**, or the environment in which the reading occurs; and the **text features**,or specific characteristics of the written text. To fully understand how these three elements affect the reading process, a quick preview of important findings about reading, discovered through the cognitive sciences, is necessary. Much of the knowledge base on this topic comes from studies of effective and ineffective readers (see Figure 3).

Reading is the process of constructing meaning through the dynamic interaction between the reader's existing knowledge, the information suggested by the written language, and the context of the reading situation. Reading comprehension is the process of deriving meaning from text and is fundamental to learning in all subject areas.

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	Traditional Views	New Definition of Reading
Research Base	Behaviorism	Cognitive sciences
Goals of Reading	Mastery of isolated facts and skills	Constructing meaning and self-regulated learning
Reading as Process	Mechanically decoding words; memorizing by rote	An interaction among the reader, the text, and the context
Learner Role/Metaphor	Passive; vessel receiving knowledge from external sources	Active; strategic reader, effective strategy user, cognitive apprentice

Figure 2

However, some of the knowledge is derived from research on expert teachers. Brophy (1992) reports that the kind of reading instruction needed to create successful readers involves more than traditional reading-recitation-seatwork. Reading should be taught as a sense-making process of extracting meaning from texts that are read for information or enjoyment, not just for practice. Important skills such as decoding, blending, and noting main ideas are taught and practiced, but are done so primarily within the context of reading for meaning. Activities and assignments feature more reading of extended texts and less time spent with skills worksheets. Students often work cooperatively in pairs or small groups, reading to one another or discussing their answers to questions about the

Characteristics of Ineffective Readers	Characteristics of Effective Readers
Believe understanding occurs from "getting the words right," re-reading	Understand that they must take responsibility for constructing meaning using their prior knowledge
Use strategies such as rote memorization, rehearsal, simple categorization	Develop a repertoire of reading strategies, organizational patterns, and genre
Poor strategy users • do not think strategically about how to read something or how to solve a problem. • do not have an accurate sense of when they have good comprehension or readiness for assessment.	Good strategy users • think strategically, plan, monitor their comprehension, and revise their strategies. • persevere in the face of contradiction, inadequate information, and stress. • have strategies for what to do when they do not know what to do.
Have relatively low self-esteem	Have self-confidence that they are effective learners; see themselves as agents, able to actualize their potential
See success and failure as the result of luck or teacher bias	See success as the result of hard work and efficient thinking

Figure 3. Reader Characteristics, adapted from Orange County Public Schools (1986).

implications of the text. Rather than being restricted to the controlled vocabulary written for basal readers, students often read literature written to provide information for pleasure (Anderson et al. 1985; Dole et al. 1991).

Notes

The research from the cognitive sciences firmly establishes five major premises which should guide the teaching of reading in the content areas:

Five Major Premises

1. **Constructs meaning**
2. **Prior knowledge**
3. **Metacognition**
4. **Reading and writing connections**
5. **Active learning**

1. Meaning is not in the word on the page. The reader **constructs meaning** by making inferences and interpretations. The learner acquires new knowledge by attaching what she already knows to what she is about to learn. Some theorists explain the construction of meaning in terms of schema activation (Marzano, 1991). A schema provides a structure or guide for understanding. New information must be matched with existing schema so that it can be understood. To illustrate, read the paragraph below and fill in the missing words:

   The problems that confront p_____ in raising ch____ from in_____ to adult life are not easy to ____. Both fa___ and m_____ meet with many di___ in their concern for satisfactory pro___ from the e____ stage to later life. It is important that young ch___ should have plenty of s___ and good f___ for healthy growth. B_____ and g___ should not occupy the same b___ or sleep in the same r____. They are often afraid of the d___.

   How did you do? (Check your answers on page 4.)

   This passage illustrates that deriving meaning is not simply a matter of recognizing information as presented. In order to comprehend, readers select a schema that seems appropriate and then fills in the missing information. Rosenblatt (1967) is commonly credited for introducing the idea of reading as a constructive process. Her remarks were in sharp contrast to previous views that meaning is discerned solely within the confines of the text. Her findings led the way to further

research on cognition. For example, research in cognition indicates that response to narrative reading is qualitatively different from response to exposition/informational reading (Kintsch, 1974; van Dijk, 1980); this suggests that different teaching strategies should be used to facilitate the reading process.

2. Reading researchers believe that information is stored in long-term memory in organized "knowing structures." The essence of learning is linking new information to **prior knowledge** about the topic, the text structure, and strategies for learning. For example, a teacher might ask students to identify a time in their lives when they have been treated unjustly and a time when they have treated someone else unjustly. The students discuss their experiences and then start reading *To Kill a Mockingbird* and other works of literature that address issues of justice. Making connections with students' own lives throughout the reading of the book will assist in their understanding (Perkins, 1993).

3. How well a reader constructs meaning depends in part on **metacognition**: the reader's ability to think about and control the learning process before, during, and after reading (that is, to plan and monitor comprehension, and to revise the use of strategies).

4. **Reading and writing are integrally related**. That is, reading and writing have many characteristics in common. Readers increase their comprehension by writing, and reading about the topic improves the writing performance of readers.

5. **Collaborative, active learning** is a powerful approach for teaching and learning. The goal of collaborative learning is to establish a community of learners in which students are able to generate questions and discuss ideas freely with the teacher and with each other. For example, a teacher asks a student to explain to a small group of peers her own drawings about how

Notes

Check your answers:
The problems that confront poultrymen in raising chickens from incubation to adult life are not easy to summarize. Both farmers and merchants meet with many difficulties in their concern for satisfactory promotion from the egg stage to later life. It is important that young chicks should have plenty of sunshine and good feed for healthy growth. Banties and geese should not occupy the same barnyard or sleep in the same roost. They are often afraid of the dark.

a certain predatory beetle mimics ants in order to invade their nests and eat their eggs. Each student has an individual responsibility to teach the group. By learning to teach one another, the students develop secure comprehension of their topics (Perkins, 1993). The literature indicates that learning is a socially interactive process (Resnick, 1987) and people need to interact with one another in order to learn. When a learner discusses a concept with another learner, the discussion enhances understanding of the concept as well as offers the listener an opportunity to compare what he's heard to his own information and beliefs. Students assume more responsibility for learning when they take on teaching roles in order to help other students.

This research has implications not only for how one comprehends the printed word but for how one teaches reading so that comprehension occurs. This type of instruction demands more from both teachers and students. For learners to understand what they read, as well as to apply learned ideas, the teacher plans instruction and then focuses on the interaction of these key elements:

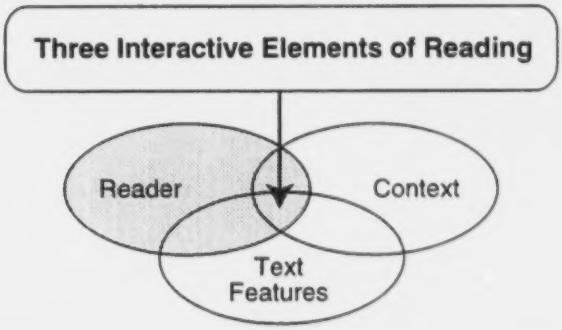
1. The **reader**: What the reader brings to the situation.
2. The **context**: The learning situation or the environment which defines the task.
3. The **text features**: The characteristics of the written text.

Embedded within each element are indicators for the strategies a reader may use in order to obtain meaning. To fully understand the reading process, it is necessary to study the three elements separately and to learn specific strategies that will enhance the learner's comprehension.

Notes

The Role of the Reader

Notes



The role of the reader in comprehending text is paramount. Successful readers view reading as

- an enjoyable activity
- a source for ideas and answers
- an independent activity
- a tool for learning
- a way to interact with the author

Successful readers understand that

- prior knowledge assists comprehension.
- mental habits influence learning.
- knowledge is to be used.
- purpose determines the strategies to be used.
- the thought process is the most important part of answering.
- becoming a reader is a lifelong process.

All too often the role of reader is approached solely from the perspective of whether certain specific reading skills have been developed. Reading skills (such as applying phonics, identifying main idea, and so on) are important, but of equal importance are two key inner resources: 1) the **prior knowledge** and, 2) the **mental disposition** the reader brings to any learning situation. Frager (1993) identifies these inner resources as cognitive (prior knowledge) and affective (mental disposition).

Cognitive inner resources refer to the learner's ability to understand written text by effectively using prior knowledge, an understanding of text structure, and the ability to set goals for reading. Because

comprehension is essentially a mental construction of what is on the page, based on what is already known, the background knowledge of the reader is a primary determinant of how well a text will be understood. For example, a person who is knowledgeable about flying airplanes is probably familiar with the meanings of technical terms associated with the activity. This background knowledge assists such a reader in her understanding of an article about making a good landing. The more knowledge a reader has about the topic being read, the better the chance of comprehending the passage.

Students who struggle with the reading process are often unaware of the role the reader plays in comprehending and learning from texts. Students do not know how to use prior knowledge to interact with the passage. Research has shown that ideal readers actively pursue meaning, carrying on a mental dialogue with the writer. An ideal reader's mind, or mental disposition, is alive with questions:

- What is this text about?
- How does that fit with what I already know?
- What is the author trying to say?
- What is going to happen next?
- What does the author mean?

Questions like these help the reader to anticipate meaning, to search for information, to reject or modify ideas, to confirm educated guesses, and to elaborate upon the content presented (Vacca & Vacca, 1993).

Approaching a reading assignment with a questioning mind seems to assist the reader in retrieving pertinent prior knowledge. Because this is a learned behavior, teachers need to instruct the learner by explaining the importance of prior knowledge and of the questioning process. By modeling the strategic application of the process via "think aloud" demonstrations and practice, for instance, students can develop a questioning mind. Teachers can use the think aloud strategy (Davey, 1983) found on page 152 to show learners how to interact with the passage.

Notes

The ability to use prior knowledge or the cognitive inner resources of the learner is often controlled by affective learner dispositions such as interest, attitude, self-confidence, control of negative feelings and procrastinations, and willingness to take risks. Marzano refers to some of these dispositions as "productive habits of mind" (1992) while Costa refers to them as "intelligent behaviors" (1991). Our mental habits influence everything we do. For example, if a reader has a poor attitude toward reading because she believes she is a poor reader and can't understand unfamiliar text, chances are she will maintain that negative attitude and continue to be a poor reader. Her mental disposition toward reading becomes a self-fulfilling prophecy. The characteristics separating poor and successful readers identified on page 2 points to the importance of mental habits of mind.

Poor habits of mind usually lead to poor learning, regardless of one's level of skill or ability. Even skilled readers can be ineffective if they have not developed powerful habits of mind. For example, many people possess knowledge and skill in reading but when asked to read a computer manual to figure out how to use a new program, they have great difficulty in understanding the text. Many readers don't know how to cope when confronted with technical reading situations. They often stop trying and instead put the task in the "to do" pile or call someone else to help. The mental habit of "persisting even when answers and solutions are not apparent" may be lacking. Productive mental dispositions outlined by Marzano (1992), Costa (1991), Perkins (1993), and Paul (1990) include

- being open-minded and flexible in thinking of ideas, solutions
- being aware of your own thinking, behaviors, and feelings
- being accurate and seeking accuracy
- being able to control your own behavior, learning, and work
- setting goals and developing a plan to accomplish the goal
- seeking feedback
- seeking clarity and accuracy
- being aware of necessary resources
- persisting even when answers and solutions are not apparent
- working cooperatively with others to accomplish a task

Notes

Helping readers develop these mental dispositions is key to effective learning. Learners who are aware of and strive to use these mental habits become self-directed learners who self-monitor and self-modify.

How can learners develop these productive habits of mind? An important step toward answers comes from asking a related but different question: How do you learn to roller skate? Certainly not just by reading instructions and watching others, although these aids may help. Obviously, you learn by skating. If you are a good learner, you learn not just by idle skating but by *thoughtful* skating; you pay attention to what you are doing, capitalize on your strengths, figure out with the help of a coach or a peer where your strengths and weaknesses lie, and you work to improve.

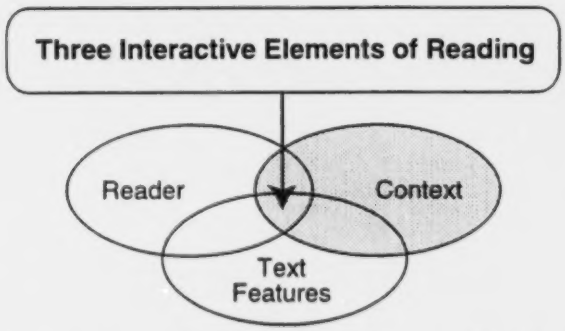
The same philosophy works with understanding and using the productive habits of mind. To understand and apply each of the mental habits, overt engagement and thoughtful dialogue is necessary. Marzano (1992) believes that habits of mind must be overtly taught and reinforced. What good does it do students to learn content if they do not learn to seek accuracy and precision, to avoid impulsivity, and to work at the edge rather than at the center of their competence? Teachers need to provide opportunities for students to understand the importance of productive habits of mind, to find examples where they are applied in relevant and meaningful situations, and, through direct teaching, to focus on the habits of mind; doing so in a thoughtful manner with appropriate feedback increases the use of productive habits of mind that, in turn, promotes successful reading.

In summary, learning is a developmental process; knowing this, it is important for the teacher to expand continually the learner's background of experience, to provide positive and specific feedback to the learner about his progress, and to teach and encourage productive habits of mind.

Notes

The Role of Context

Notes



The reader's comprehension is greatly influenced by the situation in which the reading occurs. The interactive element of context refers to more than the usual definition of context which in this reference includes physical conditions like temperature of the room, time of day, noise level within the room, and family circumstances. (Does the home encourage a reading environment?) In school, the teacher has a great deal of influence in creating the environment for reading. A pleasant, friendly, risk-taking climate is important for learning to occur. Laughter and humor are key ingredients for creating a learning climate. A teacher was once observed working with his students, and it was noticed that the students frequently engaged in laughter as a result of the teacher's sense of humor. Students really enjoyed being in his classroom and were eager to explain why. They commented on his ability to make not only the content interesting but also to make it a fun class because of his sense of humor. He willingly admitted to making mistakes, looked at the lighter side of instruction, and used flexible routines. Not surprisingly, his students were top performers.

Teachers can foster an accepting climate in many ways by

- Making eye contact with each student in the class, being sure to pay attention to all areas of the classroom.
- Calling all students by their first or preferred name.
- Deliberately moving toward and staying close to learners.
- Touching students in appropriate and acceptable ways.
- Creating a positive affective tone through the use of humor. (Marzano, 1992)

Teacher expectations and the clarity of instructions for a specific reading determine the way a student approaches a reading task. Students need to know the overall purpose for reading if they are to master specific skills or a general understanding of the material being read. They need to know if the material will be used for discussion, testing, or for a project. The way teachers instruct and respond to students' questions influences the environment. Marzano (1992) asks key questions. Does the teacher

- ask questions that cause positive thinking, avoid asking questions beginning with the word "why" or with an embedded negative presupposition?
- provide wait time: pausing to give a student more time to answer instead of moving on to another when there is no immediate response?
- dignify responses: giving credit for the correct aspects of an incorrect response?
- restate the question: asking the question in a different way.
- rephrase the question: using different words that might increase the probability of a correct response?
- provide guidance: giving enough hints and clues so that the student has a good chance of answering the question?

Messages sent by the teacher about any reading task have a great impact on student comprehension. Affective strategies that serve to focus attention, minimize anxiety, and maintain motivation are key to learning. Teacher behaviors that improve the quality of instruction include the following:

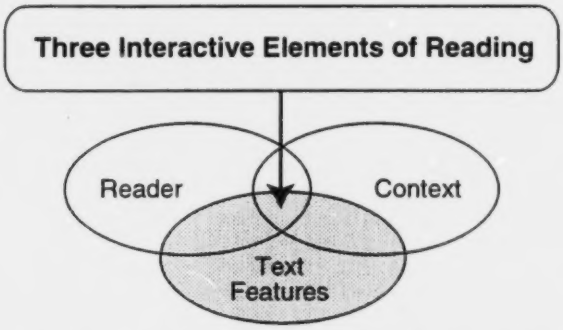
- Accessing students' prior knowledge.
- Modeling his/her thinking processes while reading.
- Guiding the development of the cognitive process in constructing meaning.
- Assisting students in using text structure to enhance reading comprehension.
- Developing fluency by using decoding skills as a means to an end—comprehension.
- Promoting a literate environment.

Notes

The role the reader plays in comprehending and learning from text, and in the situation or context in which reading occurs, are the first two interactive elements affecting comprehension of text. The third interactive element to be discussed is the role of text features.

Notes

The Role of Text Features



Text features are the unique characteristics of printed pages that can significantly affect comprehension. For example,

- If the written directions for assembling a toy model are accompanied by clear, explicit diagrams graphically representing the necessary procedures, successful task completion will be easier than if the diagrams are not provided.
- If a journal article on a scientific topic contains numerous undefined terms, the reader will experience more difficulty than if the words are clearly defined or illustrated in the text.
- If an author tells the story of a person's life, the reader will understand more if the author tells the events in chronological order than if they are in a non-sequential order.

These examples illustrate three different text features that are important for a teacher to consider every time she plans a lesson that includes text. Types of text features are

- **Reader aids**: The variety of pictorial, graphic, typographical, and structural representations used to convey information.

- **Vocabulary:** The labels for ideas and concepts.
- **Text structure**: The way ideas in a selection have been organized.

Each of these text features greatly influence reading comprehension. While decisions regarding the reader aids are controlled by textbook writers, teachers can teach students how to use and learn from the graphic aids available in the text.

The SQ3R (Survey, Question, Read, Recite, Review) strategy (see strategy 30, p. 140) instructs the reader to analyze the entire passage before reading. To "survey the material" means to develop mentally the big picture or the overall idea about the passage. Having the big picture in mind during the process of reading serves as an advanced organizer for the learner's mind; as the reader reads the passage, learned information can then be stored in the correct area, ultimately increasing retention. The graphic aids that are analyzed assist in developing the overall picture.

Two other areas of text features deserve the teacher's attention: vocabulary and text structure. An in depth explanation with examples, along with specific teaching strategies, will support a teacher in helping students become better readers of content.

Notes

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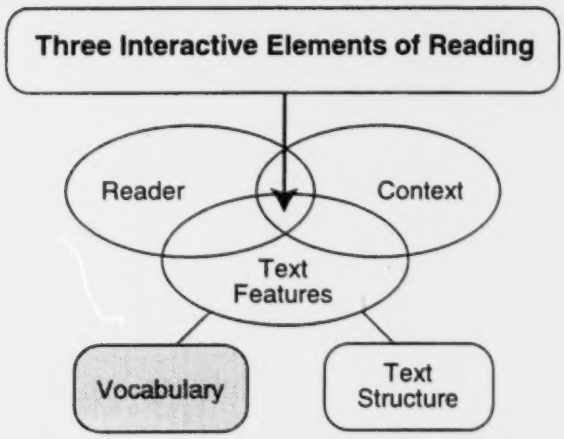
"A word is not a crystal, transparent and unchanged; it is the skin of a living thought and may vary greatly in color and content according to the circumstance and time in which it is used."

Oliver Wendell Holmes, Jr.



Introduction

Vocabulary is as unique to a content area as fingerprints are to a human being. A content area is distinguishable by its language, particularly the special and technical vocabulary terms that provide labels for the concepts which undergird the subject matter.

Why should vocabulary words be explicitly taught in the content areas? Armbruster and Nagy (1992) identifies three major differences between the vocabulary of reading lessons and that of content-area lessons. First, the meaning of the word may be closely tied to the major purpose or theme of the lesson. Therefore, it becomes extremely important for students to know the meaning of a particular word. Content area vocabulary often represents major concepts that are essential for comprehension and learning. For example, students who cannot give some explanation of the meaning of photosynthesis after a science lesson probably have failed to grasp the very essence of the lesson. For literature-based reading lessons, knowing all of the new words may not be as necessary as understanding the gist of the story.

A second difference between the vocabulary of reading lessons and that of content area lessons is the degree to which the vocabulary represents familiar concepts. New vocabulary in content area lessons is rarely associated with familiar concepts. As students learn new vocabulary, they also are learning whole new concepts. When learning the word *photosynthesis*, for instance, students are also learning a new concept. Learning new vocabulary in reading lessons often involves simply learning a new label for a concept the student already possesses. For example, if a new word *journey* appears in a story, the reader may learn it is a synonym for *trip*.

A third major difference between the vocabulary of reading and that of content-area lessons is the degree of semantic relatedness of the vocabulary words. The words in content-area lessons are often related in meaning—for example, *photosynthesis*, *chlorophyll*, and *chloroplast*—while words in reading lessons are often totally unrelated to each other.

The unique characteristics of content-area vocabulary have important implications for instruction. An effective instructional approach for content-area vocabulary must take into account the different roles that words play in a text and must utilize methods that help students build new concepts. Teachers know they should do something with the vocabulary words in their content areas, but they often have trouble with what that something should be; as a consequence, some reduce instruction to routines that have withstood the test of time, such as directing students to use glossaries and dictionaries to look up, define, and memorize words. This type of activity divorces the study of vocabulary from an exploration of the subject matter. To teach words effectively requires giving students multiple opportunities to learn how words are conceptually related to one another in the material they are reading.

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Teachers cannot, of course, teach all of the unfamiliar words students might encounter in the content text. Steps that science teachers can use to select relevant words include: 1) analyzing the unit to be studied and listing important unknown words pertinent to the topic, and 2) paring down the list by first selecting words that are important for understanding the content area in general and then adding words that appear repeatedly and that are crucial to understanding the particular passage (Santa and Alvermann, 1991).

Because students need to become independent learners, Haggard (1982) suggests that teachers help students select their own words for study. To do this, students preview the materials to be read and identify two words they consider important and which are relatively unknown. The teacher points out that important words occur many times in the text or are highlighted in some manner. Student-selected words are listed on chart paper. The teacher then modifies the list by deleting less-important words and adding missing crucial words. The teacher explains her reasons aloud for all of the vocabulary-list changes so that students learn how to determine crucial words in content reading.

One of the misconceptions about vocabulary study is that students learn new words through traditional methods of looking up definitions, writing sentences using the new words, and being subsequently tested. Developing vocabulary, whether it be general words or the specialized vocabulary in every content area, needs to be an ongoing process in which initial learning is reinforced and elaborated through repeated experiences.

An important concept to remember about vocabulary study is that words in themselves have no meaning. They are symbols that are articulated orally or in writing to represent the abstract ideas and concepts that are a part of every student's schemata. In other words, vocabulary is a way of labeling the file folders we use to organize information in our mind. But more importantly, just as

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those file folders are constantly changing, so are the labels. The change for the label is in shades and levels of meanings, always expanding and evolving. While communication depends upon a common core of definitions for vocabulary, these definitions are not static. Vocabulary study reflects the dynamic changes that both words and phrases undergo as users experience new contexts and applications. Because the meanings of words are evolutionary, then, of course, so too should be the process of learning and studying vocabulary (Brown, Phillips, and Stephens, 1993).

Notes

Teaching Vocabulary Through Strategies

Using simple, memorized definitions to teach or test vocabulary will not suffice. Of the methods of vocabulary instruction that go beyond simple definitions, several are well suited to the content areas because they focus on first developing concepts and then exploring relationships among those concepts. Within a unit of instruction, the teacher must first decide which concept(s) will be the focus of the unit; this does not mean that students will only receive information about these concepts. Next, the teacher identifies specific information or critical attributes of each concept.

We all know that students cannot process and retain absolutely everything that is important to a topic. For a variety of reasons (experiences, interests, and so on), different students will attend to and remember different bits of information; up to a point, this is acceptable. At some point, however, teachers need to help students acquire and integrate specific key concepts and see relationships among them. Then the teacher must decide which method of vocabulary instruction will assist meaningful acquisition of the words to be learned. Methods of vocabulary instruction that go beyond simple definitions include semantic mapping, found on page 82 (Heimlich and Pittelman, 1986), semantic feature analysis, found on page 77 (Johnson and Pearson, 1984), and concept definition mapping, found on page 68 (Schwartz and Raphael, 1985).

Another effective approach to achieving this ongoing involvement with language is the Stephens Vocabulary Elaboration Strategy (SVES), found on page 84 (Brown, Phillips, and Stephens 1993). The Stephens Strategy acknowledges the need for developing in-depth understanding and for broadening both meanings and context for new or familiar words as well as for technical terms that are specific to a content area. Students using this approach develop an understanding of the shades of meaning, the nuances, and the emotional connotations that words acquire. They also see how words change in response to the broad social context as well as to the setting and the time frame in which the words are used. For example, in an English/language arts class, knowledge and application of literary terms is essential to understanding and discussing literature; however, shades of meaning vary depending on use. Notice how the meaning of *setting* evolves in the following lesson excerpts:

> **Setting.** Setting is the place where the story takes place. In *Voyage of the Frog*, the setting for most of the book is the sailboat on the Pacific Ocean.
>
> **Setting.** Some books have several settings. In *Bridge to Teriabithia*, there are several important locales: the farm area where Jesse and Leslie live, their school, and their special place—the magical kingdom of Teriabithia.
>
> **Setting.** In some books, the setting is make-believe. *In The Lion, the Witch, and the Wardrobe*, the four characters go from the house where they are staying into a fantasy world.

These examples address setting as place. Some also consider social and historical context as setting. For example, *Gone with the Wind* is a depiction of Georgia during the War Between the States from a white, slave-holder's perspective.

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Teachers using this process may have their students either keep a vocabulary notebook or have a special section of their class journals for vocabulary. As vocabulary is introduced, students add the words to their vocabulary section along with a definition and an example of the word's use. SVES recognizes that students seldom encounter words or phrases only once and it provides a mechanism for students to continue gathering new words and to see new ways to use old words. As students encounter each word or phrase in additional contexts, they add to their entries. The steps for keeping a Stephens vocabulary notebook are summarized in Figure 4.

Keeping a Vocabulary Notebook*

1. Initial Encounter with Word (or Phrase)
   - A. Write word and date first encountered.
   - B. Describe context of initial encounter.
   - C. Explore, discuss, and begin to formulate a definition related to that context.
   - D. List examples generated from personal experiences and prior knowledge.
   - E. List non-examples generated from personal experiences and prior knowledge to show what the word is not or how it differs from other closely related words.
   - F. Write a definition in your own words; compare with dictionary or glossary.
   - G. Develop appropriate graphic organizers, such as word maps, attribute charts, and compare/contrast diagrams.
   - H. Create visual association drawings, if appropriate.

2. Additional Encounters with Word
   - A. Write additional date(s) encountered.
   - B. Describe context of new encounter and compare with previous contexts.
   - C. Explore, discuss, and begin to formulate a definition in new context(s) and relate to previous definition(s).
   - D. Add to, revise, and elaborate on work done in steps 4, 5, 6, 7, and 8 listed under Initial Encounter.

*Led by teacher or done in collaborative learning groups

Figure 4. Steps in keeping a Stephens vocabulary notebook.

Notes

Stephens Vocabulary Strategy Example

In the following example, Melinda is a ninth grader in an English literature class taught by Mrs. Sweeney. During the first week of school, her teacher introduces or, in some cases, reintroduces a list of literary terms as well as demonstrating and modeling the Stephens Strategy as a pre-writing activity with the class. Students are then asked to apply the strategy to their study of the literary terms. The following is a description of a page from Melinda's notebook showing how she applies the strategy to the term *plot*:

> **PLOT** September 11, 1991
> Mrs. Sweeney said that the plot is a series of related events that are in an order that tells a story. The events fit together and every one of them have to be there or it won't make sense. We are going to read the story "The Most Dangerous Game."
>
> Things I've read with a plot: stories, books like mysteries, and stories about kids in school, and things like that.
>
> Things I've read with no plot: Ann Landers and other stuff in the newspaper, my earth science book, poetry when we have to read it.
>
> **PLOT** September 12, 1991
> In "The Most Dangerous Game," there are a lot of things that happened that are related and wouldn't make sense if some were missing. We learned that the plot depends on two other things: the climax and conflict.* We learned that all stories have a beginning, a middle, and an ending and that the action in the story builds toward the ending when there is a climax. Then there is some kind of change when the story ends.
>
> Things I've read with a plot: TV shows and movies have plots, but I guess you don't read them. All kinds of stories about people have plots. I used to think poetry didn't have a plot but I guess some times it does. Last night my dad was fooling around, and he read "Casey at the Bat" at the dinner table, and it sort of has a plot. So I asked Mrs. Sweeney about it, and she said some poems do, and she told me to add narrative poems * to my notebook.
>
> Things I've read with no plot: Video games don't have plots and speeches that people give, and then things we have to read, in social studies class, don't have plots.

*Climax, conflict, and narrative poems will be added as three separate entries to the student's vocabulary section.

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PLOT October 14, 1991

In today's story the word plot was used differently. One of the characters picked out a cemetery [sic] plot. A cemetery plot is the ground where people will be buried. Some times, whole families are buried in the same place, and that is called the family plot.

I've heard of people buying a plot of land out in the country.

There is a difference between graves and plots. The grave is where people are buried, and it is a part of the plot. The plot is all the land around it.

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Modification of SVES for Elementary Students

The following graphic organizer (Figure 5) is a modification of the original Stephens Strategy (Brown and Stephens 1993). This modification is used primarily in the elementary grades where the graphic representation and structure can be applied to students at all levels.

Stephen's Vocabulary Elaboration Strategy for Elementary Grades

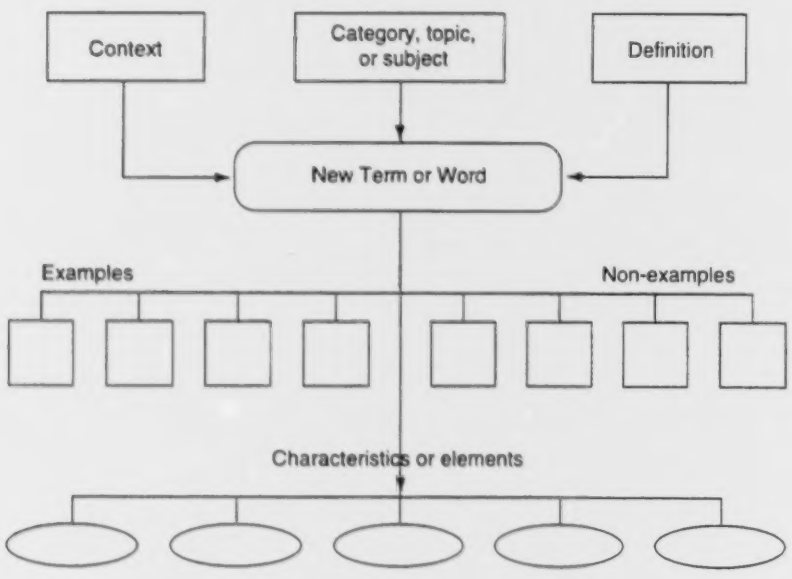

Figure 5. Modified Stephen's Strategy.

There are many vocabulary development strategies, of which this publication discusses eight (on pages 68-90):

- Concept Definition Mapping
- Frayer Model
- Mind Sketching in Vocabulary Development
- Semantic Feature Analysis
- Semantic Mapping
- Stephens Vocabulary Elaboration Strategy (SVES)
- Student VOC Strategy
- Vocabulary Link

No matter how many vocabulary development strategies teachers and learners enlist, the key to student success is the willingness and the ability of the teacher to teach students how and when to use the strategies. Listed below are 10 crucial principles for teachers to consider.

Principles of Vocabulary Instruction

1. Model new words enthusiastically in order to impact students' attitudes.
2. Provide numerous opportunities for a wide variety of reading. Vocabulary increases with increased reading.
3. Remember the impact of prior knowledge. Relate new vocabulary to experiences and concepts that students already know. Help students to connect concrete associations with abstract concepts.
4. Provide experiences for unfamiliar concepts; then, words become labels for familiar experiences.
5. Limit the number of words you teach at any one time. Concentrate on key concepts.
6. Whenever possible, teach vocabulary in related groups or clusters.
7. Use graphic organizers.
8. Help students develop a strategy and a system for learning vocabulary.
9. Provide for ongoing practice and application of vocabulary.
10. Use dictionaries and glossaries appropriately.

Notes

Summary

In summary, when teaching vocabulary, the focus needs to be on highlighting words that promote understanding of selected concepts, and relationships among those concepts. The method used to teach the words is only effective if it assists the learner in understanding the intended meaning of the words and leads to concept development. For example, defining a *birdie* or an *eagle* out of context makes little sense unless the reader understands the overall concept of golf. In fact, it could lead to some amusing confusion as to feathered creatures. Whatever the method selected to teach words, teachers should remember that learning vocabulary in the content areas always involves learning or expanding whole new concepts.

The role experience plays in concept development cannot be underestimated. A barrier to concept development is lack of experience, especially in children whose exposure to life is through TV. A young woman who had travelled to Africa reported that, "The newly created rain forest in Omaha's Henry Doorly Zoo is an approximation; it is nothing like the real experience." She went on to say, "People cannot really appreciate the concept of jungle unless they have experienced the risk, the unknown, the stench, the bugs, the purely predatory life." Marzano (1992) calls these direct experiences, which involve real or simulated physical activity by students, as opposed to indirect experiences that involve no physical activity and where students primarily listen and observe. Learning new concepts is labor-intensive for teachers and students and requires experiences, discussions, and explanations aimed at building a rich, semantic network of related ideas.

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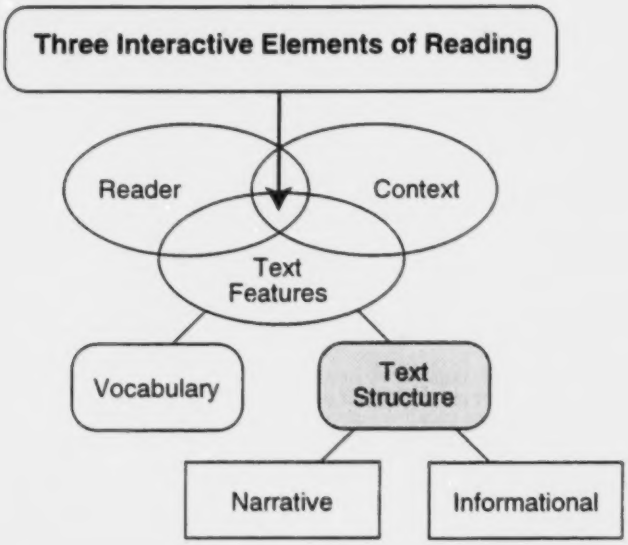

Introduction

When authors create text, they do not just randomly list their ideas. They give considerable thought to how those ideas are organized. As readers interact with the text to construct meaning, their comprehension is facilitated if they align their thinking in a manner similar to that used by the author. Effective readers effectively align their minds with that of the writer, while ineffective readers haven't a clue as to how the author organized his ideas.

Obviously, because of the infinite number of ways words can be strung together, all texts are different. But depending on the author's purpose, the topic, and the genre, reading selections tend to employ a few predominant structural patterns. Some authors refer to these patterns as frames—as in a "frame of mind" for reading, a sense of structure; they outline boundaries and delineate shape. For example, picture frames serve to hold something together into a certain shape and form. Authors have a clear scheme for organizing written information. Because authors must make countless decisions regarding what information to include in their textbooks, they must first determine the questions that the written text will answer, thereby establishing the frame (Buehl, 1995). These

structural patterns can be used to teach students to comprehend more effectively. Narrative and informational text are two predominant structural patterns used.

Example: Comparing Narrative and Informational Text

The following two texts—one narrative, the other informational—address the same topic: electric shock therapy. Read each selection and determine the similarities and differences between the structural patterns used in each.

Narrative Text

"Man, what they got going in there?" McMurphy asks Harding.

"In there? Why, that's right, isn't it? You haven't had the pleasure. Pity. An experience no human should be without." Harding laces his fingers behind his neck and leans back to look at the door. "That's the Shock Shop I was telling you about some time back, my friend, the EST, Electric-Shock Therapy. Those fortunate souls in there are being given a free trip to the moon. No, on second thought, it isn't completely free. You pay for the service with brain cells instead of money and everyone has simply billions of brain cells on deposit. You won't miss a few."

"I personally guarantee it. Completely painless. One flash and you're unconscious immediately. No gas, no needle, no sledgehammer. Absolutely painless. The thing is, no one ever wants another one. You ... change. You forget things. It's as if" — he presses his hands against his temples, shutting his eyes — "It's as if the jolt sets off a wild carnival wheel of images, emotions, memories. These wheels, you've seen them; the barker takes your bet and pushes a button. Clang! With light and sound and numbers round and round in a whirlwind, and maybe you win with what you have to play again. Pay the man for another spin, son, pay the man."

One Flew Over the Cuckoo's Nest, Ken Kesey, pp. 162, 164.

Informational Text

Holmberg discusses a number of biochemical and hormonal changes that have been reported in conjunction with Electric Shock Therapy. Hyperglycemia of one to several hours duration is a constant phenomenon. There is also an increase in nitrogen compounds, potassium, calcium, phosphorous, and steroids in the blood.

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Holmberg also lists certain specific biochemical changes within the brain, and especially in the brain stem, which are increased but there is no change in the brain amine oxidase activity. The increase in serotonin is attributed to the electric stimulus and does not appear to be related to the intensity of the convulsion.

Some impairment of memory occurs almost constantly with EST. This impairment may range from a mild tendency to forget names or dates to a severe confusion. The amnesia may be both anterograde. It is often disturbing to the patient and may continue for several weeks following the conclusion of treatment. The impairment of memory usually disappears within a month.

Depression—Causes and Treatment, Aaron T. Beck, M.D., pp. 306, 307.

After comparing these two structural patterns, give some thought to the following reflective questions:

- What prior knowledge did you find yourself using to help you complete this task?
- What are some major similarities between the texts, some major differences?
- As you read each text, describe the thought pattern you use to analyze each text.
- What are some major learnings you will carry forward from this activity?
- How might you use this type of activity with your students?

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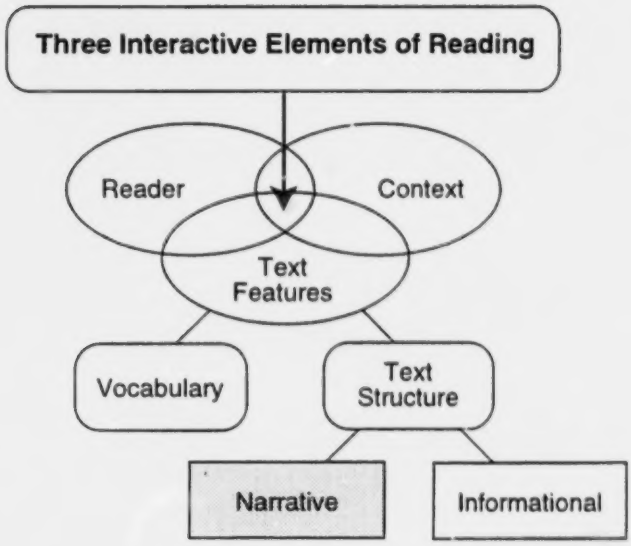

Narrative Text

Narrative text is writing in which a story is told that has a time sequence imbedded—actual or fictional. History texts frequently read as narratives, but narrative is usually created for entertainment purposes, and may occur in the forms of prose, drama, or poetry. The structural pattern used in narrative text is called story grammar. Just as sentence grammar provides a way of describing how sentences are constructed, story grammar helps to specify the basic parts of a story, suggesting ways in which those parts tie together to form a well-constructed story. Most narratives possess setting/context, characters, theme/main idea, and plot. The plot of a story is made up of one or more episodes that are linked causally. A simple story may be a single episode. More complex stories may have several episodes, plots and sub-plots, as well as different settings (Vacca and Vacca, 1993).

A typical pattern of narrative text, whether it contains single or multiple episodes, includes these steps:

1. Establishing a **setting**
2. Introducing **characters**

Science fiction: An imaginary story based on current or projected scientific and technological developments.

Fable: A short tale that teaches a lesson, often using animals and inanimate objects as characters.

Folk tale: A story of unknown origin, but well known in a particular culture through repeated telling.

Fairy tale: A story about real-life problems, usually involving imaginary characters and magical events.

Realistic fiction: Imaginative but believable narrative writing designed to entertain.

Nonfiction: Text written using factual, real-life situations.

Myth: A story passed down through oral tradition that explains natural phenomena, religion, or history of a race.

Mystery: A carefully plotted story containing an unknown element that the reader must decipher.

3. Describing a **problem** or **conflict**
4. Describing **events** related to resolving the problem or conflict
5. Resolving the problem or conflict with a **solution**
6. Establishing an overriding **theme**

Following is an example of the writing pattern for *The Rainmaker* by John Grisham:

1. **Setting**: Memphis, its legal community, and its court system.
2. **Characters**: Rudy Baylor is the main character. He meets his first legal clients: Miss Birdie, a volunteer at the Cypress Gardens Senior Citizen Building, and Donny Ray Black, a young man who needs a bone-marrow transplant. Dot and Buddy Black are the parents of Donny Ray.
3. **Problem or conflict**: Rudy Baylor discovers that a very large insurance company is not only denying benefits to his client, Donny Ray Black, but has a history of denying benefits to subscribers.
4. **Events** related to resolving the problem or conflict: The judge initially presiding over the case suddenly dies, and the newly appointed judge detests the fraudulent practices of insurance companies. Rudy goes to the company to take depositions of different employees only to discover that several have been released from their position or resigned. The law firm representing the insurance company puts taps on Rudy's phone, and, when he discovers his phone is illegally tapped, he plays games with the law firm by planting false information.
5. **Solution**: The case goes to court and is decided in favor of the defendants. They are awarded fifty million dollars. The insurance company files for protection under the bankruptcy code and, therefore, is not liable for the fifty million dollars. It is, however, a moral and ethical victory.

Notes

Determining the theme of a story involves ethical, psychological, or philosophical judgment on the part of the reader. When readers evaluate a theme, they are making meaning or constructing knowledge. A student's ability to evaluate the theme will vary, depending on the background knowledge and experiences he brings to the story. In addition to understanding setting, plot, and theme, students need to be able to interpret passage-relevant vocabulary, possibly with the assistance of graphic aids.

Notes

The artful use of questions encourages elaborative thinking and enhances comprehension. The discussion of a narrative selection will enhance students' understanding if the general order of the teacher-generated questions follows the organization of the story grammar. Also, consistently discussing stories in their logical sequence will strengthen students' sense of the important story-grammar elements and, thus, will increase their ability to comprehend other stories they read in the future. As you think about the story-grammar elements, create sample questions to assist understanding. Below are sample questions that can be asked about each of the story grammar-elements included in the handouts.

Setting
- Where does the story take place?
- When does the story take place?
- Could the setting have been different?
- Why do you think the author chose this setting?

Characters
- Who are the characters in the story?
- Who is the most important character in the story?
- Which character do you enjoy the most?
- What is (name a particular character) like?

Initiating Event
- What started the chain of events in this story?
- What is the connection between this event and the problem?

Problem/goal
- What is the main problem/goal?
- Why is this a problem/goal for the main character?
- What does this problem/goal tell us about this character?
- How is the setting related to the problem/goal?
- What is there about the other characters that contribute to this problem/goal?
- Would this be a problem for you?

Events
- What important things happened in the story?
- What did _____ do about _____?
- What was the result of this?
- Why didn't it succeed?
- What did _____ do next?
- How did _____ feel about this?
- How would you have reacted?
- What do you learn about _____ from the course of action taken?

Resolution
- How is the problem solved/goal achieved?
- How else could the problem have been solved or the goal achieved?
- How would you change the story if you were the author?

Theme
- What is the moral of this story?
- What do you think the author was trying to tell readers in this story?
- What did _____ learn at the end of this story?
- How can you apply this story to your life?

Figure 6. Sample Questions

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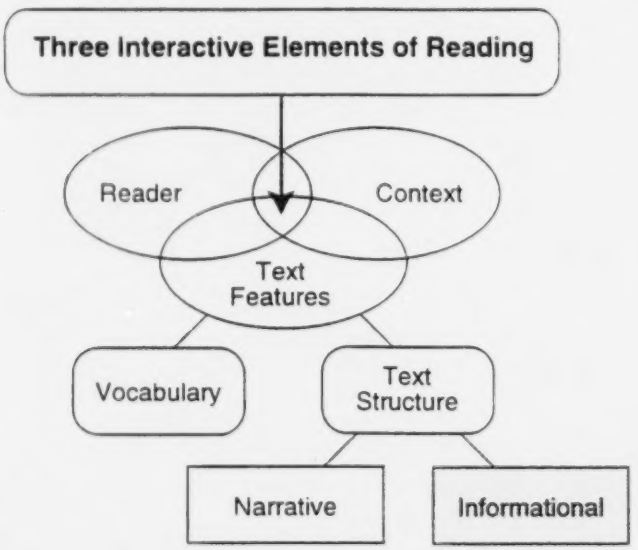
Strategies (on pages 91-100) to help learners understand narrative text are:

- Character Map
- Directed Reading/Thinking Activity (DRTA) narrative text
- Story Frame
- Story Maps
- Story Mapping Through Circular Pictures
- Venn Diagram



Informational Text

Informational text is another common text structure. It is usually created to inform or persuade. Examples of informational text include textbook chapters, newspaper and magazine articles, and reference material. An overall writing pattern for informational text is introduction, body, and conclusion, based on a main idea and supporting details (Herrmann, 1994). The key to understanding informational text is to know and recognize the predominant patterns that structure the information. Consideration must be given to the author's purpose, major ideas, supporting ideas, passage-relevant vocabulary, and any graphic representations. When readers understand the writing pattern used, they can develop an appropriate frame of mind for reading.

Notes

For example, when reading an article, "The Results of Old Testing Versus New Testing," the reader develops a *comparison* frame of mind. This frame guides the reader's mind as she reads, enabling her to organize the information so that the article makes sense. A comparison frame of mind prompts readers to automatically look for similarities and differences. Teaching the students to recognize the author's organizational pattern will increase the likelihood of a reader seeing the logical connections in the text. Jones, Palincsar, Ogle and Carr (1987) highlight a number of text frames that authors use to organize different types of information; for them, common writing pattern frames include

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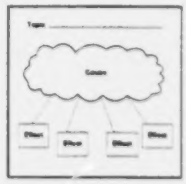
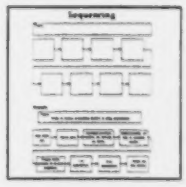
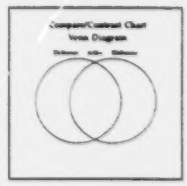
- Cause and effect: Shows a causal relationship.



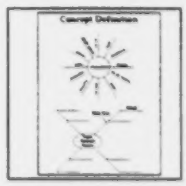
- Chronological sequence: Uses a time sequence to organize ideas.



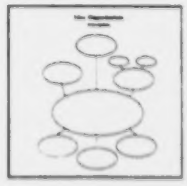
- Comparison and contrast: Points out similarities and differences between two or more topics.



- Concept/definition: Provides understanding of a single concept by sharing information and examples, and by presenting attributes.



- Description: Gives information about a topic, event, object, person, or idea (facts, characteristics, traits, features) by presenting its attributes.



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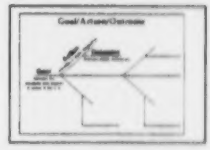
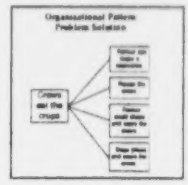
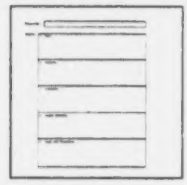
- Goal/action/outcome: Creates a plan of action for someone trying to do something for a specific reason.



- Problem and solution: Provides a problem and solution format.



- Proposition/support: Presents an argument and support for a viewpoint.



When readers approach a particular piece of writing by first determining the author's organizational pattern, it helps them to develop a frame of mind for reading. Recognizing a specific pattern allows the reader to develop specific guiding questions for reading. Each organizational pattern used by writers can be accompanied by a set of guiding questions. For example, when a person reads a newspaper article about the number of teens using drugs, and the effect this is having on our society, cause/effect questions can be developed. Some questions might be: What are some causes of high drug use? What are the important elements or factors that cause the high drug use? What are some effects that drug use has on teens? How might the result be different if the elements or factors were different? In essence, they read to answer a set of relevant questions about the material—questions that relate directly to one's purpose for reading the particular piece of writing.

Notes

Questions

1. Cause/Effect Frame

- What is it that happens?
- What causes it to happen?
- What is the effect?
- What are the important elements or factors that cause this effect?
- How do these factors or elements interrelate?
- Will this result always happen from these causes? Why or why not?
- How would the result change if the elements or factors are different?
- What is the cause/effect process the author is describing?
- Why did a cause/effect structure emerge?

2. Compare/Contrast Frame

- What is being compared and contrasted?
- What categories of characteristics or attributes are used to compare and contrast these things?
- How are the things alike or similar?
- How are the things not alike or different?
- What are the most important qualities or attributes that make them different?
- In terms of the qualities that are most important, are these things more alike, or more different?
- What can we conclude about these things or items?
- What is the author comparing/contrasting?
- Why is the author comparing/contrasting these things?
- Why did the comparison/contrast structure emerge?

3. Concept/Definition Frame

- What is the concept?
- To what category does it belong?
- What are its critical characteristics/attributes?
- How does it work?
- What does it do?
- What are its functions?
- What are examples of it?
- What are examples of things that share some but not all of its characteristics/attributes?

4. Description Frame

- What is being described?
- What are its critical attributes?
- What are the characters, places, and objects in the passage?
- Why is this description important?

5. Goal/Action/Outcome Frame

- Who are the people involved?
- What are they trying to do or achieve? What is their goal?
- What actions do they take to achieve their goal?
- What are the effects of their actions? What happens?
- Were these actions successful for achieving their goal?
- Are there unexpected outcomes from their actions?
- Would other actions have been more effective? Could they have done something else?

6. Problem/Solution Frame

- What is the problem?
- Who has the problem?
- What is causing the problem?
- What are the effects of the problem?
- Who is trying to solve the problem?
- What solutions are recommended or attempted?
- What results from these solutions?
- Is the problem solved? Do any new problems develop because of the solutions?

7. Proposition/Support Frame

- What is the general topic area or issue?
- What proposition (viewpoint, theory, hypothesis) is being presented?
- How is this proposition supported?
- Are examples provided? Do the examples support the proposition?
- Are data provided? Does the data support the proposition?
- Is expert verification provided? Does it support the proposition?
- Is a logical argument provided? Does it support the proposition?
- Is a sufficient case presented to warrant acceptance of the proposition?

8. Sequence/Chronological Order Frame

- What is being described in sequence?
- Why did a chronological order pattern emerge?
- What are the major steps in this sequence?
- Why is the sequence important?

Figure 7. Questions relating to purpose for reading.

Notes

Authors often showcase text patterns by giving readers clues or signals that will help them to figure out the frame they are using. Readers usually become aware of the pattern if they are looking for the signals. A signal may be a word or a phrase that helps the reader follow the writer's thoughts. These words connect one idea to another.

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Signals

Cause/Effect	Comparison/Contrast	Description	Problem/Solution	Sequence/ Chronological Order
because	different from	for instance	problem	first
since	same as	for example	the question is	second
consequently	similar to	such as	a solution	next
this led to	as opposed to	to illustrate	one answer is	then
so that	instead of	most important	one reason for the	initially
nevertheless	although	in addition	problem	before
accordingly	however	another		after
because of	compared with	furthermore		when
as a result of	as well as	first		finally
in order to	either ... or	second		preceding
may be due to	but	to begin with		following
effects of	on the other hand	also		on (date)
therefore	not only ... but also	in fact		not long after
consequently	while			now
for this reason	unless			as
if...then	similarly			
thus	yet			

Figure 8. Signals for determining text patterns.

Notes

An organizational pattern, then, frames the most important arguments or information in a piece of writing so that the reader "gets the point" and can make sense of it. How can teachers get students to read with an "active" frame of mind when they tackle textbook and other print material assigned in the classroom? The answer lies in teaching strategies to involve the students in the reading assignments. We can use strategies that "tip off" students to the appropriate frame for reading (Buehl, 1995).

For example, suppose your students are going to read a passage on soccer. Determine first the text pattern frame they can use when reading the passage. If the passage emphasizes the problems that professional soccer players in the United States have in gaining the financial support and status of other professional sports—for example, football or baseball—the reader approaches the passage with the **problem/solution** frame. Perhaps the passage describes characteristics of soccer and unique features of the sport; then the **description** frame is appropriate. If the selection describes similarities and differences between soccer and football, structure the assignment around **compare/contrast** questions.

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If reasons why more people should play soccer and how soccer participation benefits performance in other sports are presented, the **cause/effect** frame could be used. If the passage is a general informational segment explaining what the game involves, rules of soccer, game strategies, and why it became popular in the United States, use the **concept/definition** frame. If information addresses the development of soccer from the first event to present, the **chronological sequence** frame is evident. If the author presents a theory about why soccer is more popular in Europe and South America than other countries, stress **proposition/support** relationships. If the article is about the United States' effort to increase the popularity and support of soccer, the **goal/action/outcome** frame of mind could be used to structure the work of the learner.

The teaching strategies presented in this publication can be effectively used to signal organizational pattern frames to students when reading narrative and informational text. Using these strategies with students can provide the support they need in order to better understand informational text by reading in the "right" frame of mind (Buehl, 1995).

Teaching Students to Use Informational Text Frames

Students can learn to recognize informative patterns and use them to improve their reading comprehension. Teachers can teach students about the informational text frames through a series of mini-lessons. The steps in the instructional strategy are

1. **Introduce an organizational pattern**. Explain the pattern, and, when writers use it, note cue words that signal the patterns, share an example of the pattern, share sample guiding questions, and then describe the graphic organizer for that pattern.
2. **Analyze examples of the pattern in trade books.** Students locate examples of the informational frames in textbooks, newspapers, and computer text, not in stories. Sometimes the

Notes

pattern is signaled clearly using titles, topic sentences, and cue words, and sometimes it is not. Students identify cue words when they are used, and they talk about why writers may or may not explicitly signal the structure. They also diagram the pattern using a graphic organizer.

3. **Write paragraphs using the pattern.** After students analyze examples of the pattern in informational books, they write paragraphs using the pattern. The first writing activity may be a whole-class activity. Later, students write paragraphs individually and in small groups. For prewriting activities, students choose a topic, then gather and organize information using a graphic organizer. Next, they write a rough draft of the paragraph, inserting cue words to signal the structure. Then they revise, edit, and write a final copy of the paragraph.
4. **Repeat for each pattern.** Repeat the first three steps for each of the informative frames. Once students have learned the organizational patterns, they are ready to use them in their own reading and writing.

Adapted from Tompkins (1994)

Primary Grades and Reading in the Content Areas

Informed opinion and empirical research aimed at developing content reading skills have been focused primarily at upper elementary and secondary readers. Very little work has been focused on beginning readers. Yet young children need to develop proficiency with simple informational texts in order to keep pace with the ever-increasing number of subject-area textbooks they will experience as they progress through school. Olson and Gee (1991) conducted a survey in which they asked 47 primary teachers (first through third grades) how helpful recommended reading strategies were in helping young students learn to read informational texts. Results of the survey reveal that primary grade readers have problems similar to those encountered by older readers in reading

Notes

content materials, specifically problems in understanding vocabulary, concepts, and text structure. Teachers in the survey identified five strategies as being effective in helping young readers read content passages:

1. Group Summarizing
2. Informational Paragraph Frames
3. K-W-L (What I know, What I want to learn, What I learned)
4. Semantic Mapping
5. Visual Imagery

Strategies (on pages 101-155) to help all learners understand informational text are as follows:

- Anticipation Guides
- Concept Question Chain
- Directed Reading/Thinking Activity (D-R-T-A)
- FIRE
- Graphic Organizers
- Group Summarizing
- Informational Paragraph Frame
- K-W-L (What I know, What I Want to Learn, What I Learned)
- Pairs Read
- Pre-reading Plan (PREP)
- Probable Passages
- Proposition/Support Outline
- Question-Answer-Relationship (QARs)
- RAFT-Role/Audience/Format/Topic
- Reciprocal Teaching
- SQ3R (Survey, Question, Read, Recite, Review)
- Search Strategy
- Semantic Mapping
- Story Mapping
- Structured Notetaking
- "Think-alouds"
- Visual Imagery

Notes

Conclusion

The desired outcome of reading is meaning derived from print. The text structures and strategies introduced in this section serve as a framework for readers needing to organize text conceptually; however, text structures provide a mental construct for the reader only if they are appropriate and helpful. With some informational text, the reader's identification of structures may support comprehension; with others, it may not. The notion of helpfulness will vary from reader to reader.

Lastly, it should be remembered that identifying text structure must never take precedence over evaluating whether or not a reader comprehended a passage. Accurately determining text structure is not and should never become the outcome of reading.

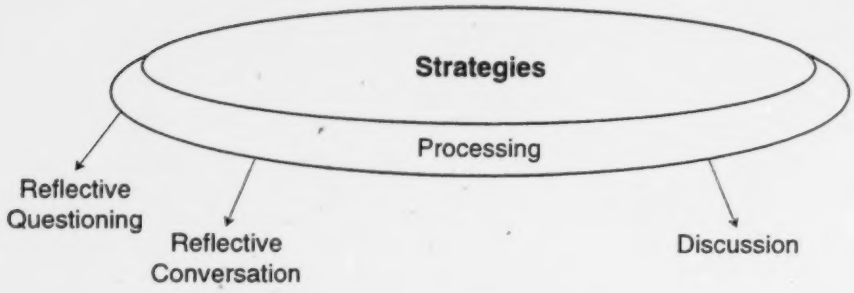
Notes

Section 2

Strategic Processing

Notes

"Be the change you wish to see."
Gandhi



The Role of Metacognition and Reading to Learn

Learning is strategic when learners not only know, recognize, and understand a variety of reading structures and strategies, but when they also know how to use them, when to use them, and why to use them. Ideal readers know how to approach a text and how to make plans for reading. They also know how to locate and summarize important points, to organize information, and even to get out of jams when they run into trouble with a difficult text (Santa and Alvermann, 1991). Strategic learning prepares students to think about their own thinking, thereby causing strategic processing.

Studies about human cognition and learning have identified that "thinking about thinking" improves skills for learning. The process by which people are asked to recognize and label their thinking is called metacognition, which refers to one's awareness of, knowledge about, regulation of, and ability to control one's own cognitive processes (Brown, Bransford, Ferrara, and Campione 1983). As people become more aware of how they are thinking, they are more likely to control their thinking processes, to select the most appropriate skill for each situation, and to shift from skill to skill as needed. Over the past decade, a growing body of evidence has

made clear that metacognition plays an important role in effective comprehension and in the retention of text (Baker, 1985; Baker and Brown, 1984; Garner, 1987). Simply put, metacognition is your ability to think about and to control your own learning.

The term metacognition, as it applies to reading, involves two basic components: metacognitive knowledge and regulation. Metacognitive knowledge includes self-knowledge and task-knowledge. Self-knowledge is the knowledge students have about themselves as learners, and task-knowledge is the knowledge they have about skills, strategies, and resources necessary to perform cognitive tasks (Vacca and Vacca, 1993).

The second component regulation, referred to as self-regulation, involves the ability to control and monitor comprehension by being aware of one's own behaviors and attitudes affecting comprehension (Baker and Brown, 1984). In an earlier section about "the reader," we discussed the effect that the learner's mental dispositions have on any learning situation. Some of the productive habits of mind deal specifically with self-regulatory skills such as being aware of your own thinking, planning, being aware of necessary resources, being sensitive to feedback, and evaluating the effectiveness of your actions (Marzano, 1992). According to Marzano, it is important to teach directly and then monitor the learner's "productive habits of mind." Self-knowledge, task-knowledge, and self-regulation work in conjunction during strategic reading to learn.

Teaching students how to become ideal readers capable of monitoring their learning is an important part of teaching reading in the content areas. Teaching reading must go beyond the show-and-tell stage; teachers need to teach students to think about their own thinking and learning before, during, and after reading. How does one teach someone to think about their own thinking?

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Just as Marzano recommends overtly teaching productive habits of mind to students, the same instructional emphasis is necessary for metacognition. Metacognitive strategies are those that help students develop the skill to control their own cognitive activities. One effective instructional approach for enhancing children's metacognitive awareness and control is "reciprocal teaching" (Palincsar and Brown, 1985) (see page 137). Reciprocal teaching is an excellent way to foster independent use of strategies because each student is expected to serve as "teacher" in small group lessons. Another strategy teachers use for metacognitive processing is the "think alouds" (Davey, 1983) (see page 152). With think-alouds, teachers make their own thinking explicit by verbalizing their thoughts while reading orally; this helps readers clarify their understanding of reading as well as their understanding of how to use strategies. The think-aloud strategy provides an opportunity for students to see how a mind actively responds to thinking.

Many teachers have been teaching metacognitive strategies without realizing it. Thus, teachers need not learn a whole new instructional approach to foster metacognitive strategies. They may, however, need to learn to gradually shift responsibility for implementing these strategies from themselves to the students. The primary purpose of providing students with instruction in metacognition is to enable learners to take responsibility for both their own learning and their comprehension activities.

The Role of Reflective Questioning

Questions serve as the basis for elaborative and reflective thinking. Effective questions are capable of transforming students from information seekers to information users and metacognitive processors. Research confirms the positive influence that questioning has on students' comprehension and retention of prose (Anderson and Biddle, 1975).

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Because questioning can enhance comprehension, it is useful to use a framework for developing and asking questions. Questions come in three forms:

1. "Right There," or literal questions
2. "Think and Search," or interpretive questions
3. "On My Own," or applied questions

The "Right There" questions are referred to as *reading the line*; they are concerned with facts and ideas, either explicitly stated or paraphrased. The reader can actually place a finger on the answer in the text. The questions are asked beginning with words or statements such as "who is," "where is," "list," "what is," "when is," "how many," "when did," "name," "what kind of." These questions usually elicit a one-word or short-phrase response and require one right answer. Sample questions are "Who discovered America?" "Who was the first person to set foot on the moon?"

The "Think-and-Search" questions might be called *reading between the lines*. The reader makes inferences or perceives relationships about the author's ideas. The answers to these questions are embedded in the text but may call for some connecting of text and/or thought. The reader may need to add new information to prior knowledge to determine a response. The questions are asked beginning with words or statements such as "summarize," "what caused," "contrast," "retell," "how did," "explain," "find two examples," "for what reason," "compare." Example question: "What similarities do you see between Neil Armstrong's voyage to the moon and Christopher Columbus's voyage to the New World?"

The "On My Own" or applied level is known as *reading beyond the lines*. The reader is expected to apply, create, or evaluate text-based information. The answers to these questions are found beyond the text in conjunction with prior knowledge. The reader may need to read between the lines, remember past experience, and evaluate the text. The questions begin with the following words or statements:

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"what do you think," "prove," "apply," "create," "initiate," "predict," "what if," "solve," "evaluate." Example questions are: "How would the world be different today if Columbus had landed on the West Coast?" "How do you think education would be affected if education received the same budget as that allocated for space exploration?"

Teachers use a number of instructional strategies (see pages 105-139) that employ questions, such as

- Concept Question Chain
- Formulate, Internalize, Record, Exchange (FIRE) Strategy
- Question/Answer/Relationships (QAR)
- Reciprocal Teaching

The Role of Discussion

Discussion, dictionaries say, is "a close examination of a subject with interchange of opinions, sometimes using argument, in an effort to reach an agreement." Discussion in the classroom can best be described as conversational interactions between the teacher and students as well as between students. Discussion signifies an exchange of ideas and an active participation among all parties involved (Vacca and Vacca, 1993).

According to Brophy (1992), the construction of meaning required to clearly understand a topic being studied requires interactive discussion during lessons and activities. Students need opportunities to answer questions about the content and to discuss or explore its meanings. Interactive discussions allow students to process the content actively and "make it their own" by paraphrasing it and by exploring its relationships to other knowledge and to past experience.

Group discussions stimulate thinking. The notion that thinking originates within individuals (and only after that is it ready to be shared with others) has given way to the belief that some of the best thinking results from a group's collective thought (Sternberg, 1987).

Notes

Increasingly, research is pointing to thoughtful discussion and not to just teacher lecturing or student recitation; this is a characteristic of the discourse involved in teaching for understanding (Brophy, 1992). In group discussions, children often discover that their beliefs and values differ from those of their peers.

A problem with most discussions is the tendency for teachers and a few bright, verbal students to monopolize classroom talk; when this happens, other students no longer share their thoughts, but instead become inhibited, self-conscious, and unwilling to share their thoughts. Thus, clear explanations and modeling of effective discussions by the teacher are important. Students stand a better chance of participating attentively in discussion when they have a clear sense of purpose, understand the discussion task, and are given explicit directions and clear explanations (Vacca and Vacca, 1993). For a discussion to be successful, educators have to teach discussion skills to students. Some effective discussion skills are active listening, paraphrasing, and clarifying. Teachers must be willing to take a risk or two, as well. Whenever a discussion is initiated, the outcome is bound to be uncertain, especially if the purpose is to help students think critically and creatively about what they have read.

Many of the reading strategies described in this text include discussion as an integral part of understanding the text being read. The purpose of discussion as an integral part of each reading strategy is to

- Allow students to respond to text
- Build concepts
- Clarify meaning
- Explore issues
- Share perspectives
- Refine thinking

Notes

Two types of discussion are beneficial to enhancing reading comprehension: **guided discussion** and **reflective discussion** (Vacca and Vacca, 1993). There are at least six generic strategies germaine to discussion:

1. Frame clearly focused questions.
2. Wait for responses.
3. Call on non-volunteers as well as volunteers.
4. Promote student-to-student interaction.
5. Probe for clarity, definition, and elaboration.
6. Check to see whether one discussant understands another correctly.

When the goal of the discussion is to share information about the concepts, clarify meaning, and promote understanding, the most appropriate discussion may be **guided discussion**. The main objective of an informational discussion is to help students grapple with issues and understand important concepts. The primary role of the teacher is to provide a moderate amount of structure and leadership by asking questions, by probing student responses, and by encouraging student questions. One caution for the teacher is to avoid being too directive such that the discussion resembles a lecture with a few students participating. The purpose of a guided discussion is to help students interpret and communicate with one another as to what the text means to them.

A **reflective discussion** is different from a guided discussion in several ways. The purpose of a reflective discussion is to require students to engage in critical and creative thinking as they solve problems, clarify values, explore controversial issues, and form and defend positions; in order for students to do this, they must have a clear understanding of the important concepts they are studying. The teacher's role during a reflective discussion shifts from that of instructor or leader to that of participant. The teacher contributes to the discussion by sharing ideas and opinions (Vacca and Vacca, 1993). According to Alvermann, et al. (1988), "Teachers can guide

Notes

students to greater independence in learning by modeling different ways of responding and reacting to issues, commenting on others' points of view, and applying critical reading strategies to difficult concepts in the textbooks."

As discussed earlier, the *context* in which the reading occurs is critical for learning. The environment of the classroom is a significant factor in creating a positive, successful discussion for students. Following are several suggestions for creating an environment for discussion:

1. Arrange the room so that students can see each other and are able to huddle in conversational groupings when they need to exchange ideas.
2. Teach, model, and encourage active listening.
3. Clearly state the meaning of the topic and the goal of the discussion.
4. Keep the focus of the discussion on the topic to be discussed; help students stick to the subject being discussed.
5. Avoid ineffective behavior, verbal and nonverbal, that squelches the discussion. Give students enough think-time; say the question only once; look at the person speaking; and use body language that displays listening (Vacca and Vacca, 1993).

Four strategies (on pages 156-165) that can be used to promote effective discussions include

1. Community circle
2. Creative debate
3. Discussion web
4. Scored discussion

The Role of Reflective Conversation

Reflective conversation is when a valued peer helps one become aware of his thinking so that he can change his thought processes, thus improving his overt reading behaviors. When a learner not only understands his inner thought processes, but then uses his

Notes

understanding to improve his reading comprehension, he is on his way to becoming an ideal reader.

Learning is the overall goal of a reflective conversation for both the reader and the coach facilitating the discussion. Reflective coaches encourage and support peers as they move beyond their present capacities into new behaviors and skills. People who wish to improve their craft never lose their need to be coached. Interestingly, the coach need not be a more expert performer than the person being coached. Technical expertise frequently is less relevant than the ability to enable or empower people to move beyond their current performance (Costa and Garmston, 1994).

A reflective conversation is a nonjudgmental process that can occur before reading, while reading, and after reading. The process highlights the three phases of cognitive processing:

1. The preactive phase
2. The interactive phase
3. The reflective phase

During the preactive phase, the coach asks the reader questions to promote thinking and focus before reading the passage. **Planning questions** might include the following:

- What are some of the things you already know about the passage?
- What are some predictions about the passage?
- What concepts are you trying to understand by reading this passage?
- What are your reading goals? What do you hope to learn or experience by reading this passage?
- What strategies might you use as you read the passage to help you understand?
- If you encounter difficulty in understanding the passage while reading, in what ways might you overcome the difficulty?
- How will you know you understood the message intended by the author?

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During the interactive phase, students read the passage and are invited to reflect on their progress, their thought processes, and their perceptions of their own behavior with the coach. Asking readers to indicate where they are in their reading, to describe their trail of thinking up to that point, and/or to define alternative reading strategies they intend to pursue helps them become aware of their own behaviors and to monitor and adjust as necessary. Questions the coach asks **while reading** are

- What are you predicting the main idea of the passage to be at this time?
- Explain how you arrived at that conclusion.
- What were the steps of thinking you used.
- Explain the reading strategies most helpful up to this point of reading.
- Label your thinking steps to this point.
- How is the thinking you are using now like _____?

An **after-reading** conference—the reflective phase of cognitive processing—allows the reader to evaluate how well he read and understood the passage, how productive the strategies were, and whether alternative, more efficient strategies could be used in the future. The conference helps the reader analyze his learning and whether he needs to do further reading in order to understand better the concept within the passage. The coach also asks questions of the reader that cause him to think how he will use the information in future learning situations. After-reading questions are as follows:

- How are you feeling about what you read?
- What was the main idea within the passage?
- What reading strategies did you find most helpful, and why?
- How did the main idea compare to your before-reading prediction?
- How do you see yourself using this information in future situations?

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- As a result of this reading, what did you learn about yourself that will help you in future reading situations?
- How is this reflective-conversation process working for you? What can I do as the coach to better meet your learning needs?

Developing and maintaining trust is the first step in establishing the reflective-conversation process. Trusting relationships are developed when confidentiality is maintained, commitments are kept, feelings are honestly expressed, people are personally interested in others, mistakes are admitted, and people are listening reflectively. Trust grows stronger as these behaviors continue, but a relationship can be seriously damaged if someone is discourteous, disrespectful, makes value judgments, overreacts, threatens, or is personally insensitive to another person (Costa and Garmston, 1994).

Reflective conversation involves exquisite use of nonjudgmental verbal behaviors such as, **silence**, **accepting**, and **clarifying**.

Silence occurs when a coach asks her peer a reflective question such as, "What are you predicting the passage will be about?" and then waits silently until her friend is ready to respond. All too often, the coach only waits one or two seconds after asking the question before asking another one or giving her answer. A coach who waits, communicates respect for the learner's reflection and processing time. Waiting for answers also models desirable behaviors of thoughtfulness, reflection, and restraint of impulsivity. When the coach provides the necessary time for thought, the thinking and creativity of the reader's response increases (Rowe, 1974).

Nonjudgmental **accepting** responses indicate to the reader that the coach understands what she said—for example, "I understand," or "You're saying the passage is about ..." The coach paraphrases by restating, rephrasing, translating, or summarizing what the learner said. Maintaining the intent and accurate meaning of what the learner said while using different words is important. The paraphrase is possibly the most powerful of all the nonjudgmental

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verbal behaviors because it communicates that "I'm attempting to understand you," and that in turn says, "I value you" (Costa and Garmston, 1994).

Clarifying indicates that the coach does not understand what the learner is saying and that more information is required. Clarifying is often stated in the form of a question, but it might also become a statement inviting further information—for example, "Please expand on what you mean by gas-permeable, I'm not sure I understand." Clarifying is not meant to be a devious way of redirecting what the reader is thinking or feeling, nor is it a subtle way of expressing criticism. "Why would you want to use that reading strategy?" or "Didn't you read that quickly?" are examples of such clarifying questions.

The intent of asking clarifying questions is to help the coach better understand the learner's ideas, feelings, and thought processes. Clarifying contributes to trust because it communicates to the learner that her ideas are worthy of exploration and consideration (Costa and Garmston, 1994).

The intent of reflective conversation is to assist the learner in becoming an ideal reader. The process of reflective conversation is not a common one in our schools. For students to be successful, they must be taught how to conduct reflective conversations as well as how to continually practice the nonjudgmental verbal behaviors.

Once students learn how to "listen to hear," to paraphrase what's been said, and to ask nonjudgmental questions, they can effectively conduct a reflective conversation. It is then that they will have learned how to learn.

Notes

Section 3

Strategic Teaching

Notes

"Teaching is a constant stream of professional decisions made before, during, and after interaction with the students: decisions which, when implemented, increase the probability of learning."

Madeline Hunter, Author of Mastery Teaching

"Once a student leaves high school, 90% of his reading will be informational reading. Only 10% of his reading will be for pleasure" (Daggett, 1990). Teachers play a critical role in helping students realize a potentially powerful use of language—engaging the mind in thinking and learning with texts.

However, "observations show that while teachers devote the majority of their instructional time to presenting new content, little of this prepares students to read assignments or helps them to internalize new concepts. Some content-area teachers merely tell their classes to open their textbooks and begin reading—with no purpose, preview, or directions" (Wood and Muth, 1991). Teaching with textbooks is no easy matter. Although texts are routinely assigned in content-area classrooms, showing students how to think and learn with texts enters into the plans of teachers infrequently. All too often, teachers tend to lecture directly from the textbooks, leaving students with little incentive to read on their own (Wood and Muth, 1991).

When students become dependent on teachers rather than on their own minds as their primary source of thinking and learning, they are rarely in a strategic position to learn how to learn; this need not

be the case. How students interact with texts, with other students, and with the teacher is a major responsibility of the teacher. Shifting the burden of learning from teachers to students is a new way of viewing teaching and learning. The teacher cannot understand the written text for the student; the learner must do that. The key question is, "How do teachers teach in order to cause students to take that responsibility for their learning?"

One of the best ways for students to learn how reading works is to have them actively, reflectively, and collaboratively engaged with reading materials for a **real and valuable purpose**. The teacher's role as a knowledgeable collaborator in the learning process is to model the expert strategic reasoning that goes on when one reads. Teachers should encourage and offer learning opportunities to explore, to experiment with, and to internalize strategic reasoning. When teachers provide extensive social and verbal interaction among learners, they perform at higher levels of thinking and planning (Herrmann, 1994).

Just as researchers believe thinking occurs in three major phases, so does the instructional process proceed:

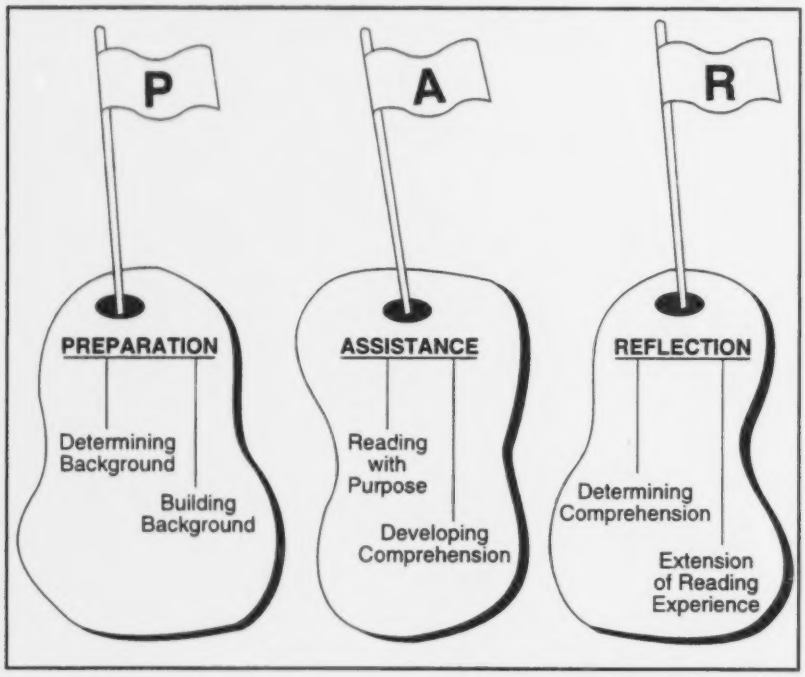
1. Preparing students for instruction (before reading activities)
2. Guiding students in their learning (during reading activities)
3. Enhancing or building upon the learning (after reading activities)

Richardson and Morgan (1994) share a before, during, and after framework for strategic teaching called PAR. They coined the acronym PAR to develop an association with the golf term *par*, which means to complete a round of golf taking only the allotted number of strokes. Golfers feel they have played a good round when they shoot par for the course. By shooting par they lower their "handicap." Just as all golfers want to lower their handicaps, teachers want to lower students' handicaps when reading. One approach is to implement PAR teaching.

Notes

PAR teaching involves

- Preparation and Planning before reading—arousing curiosity and the need to know
- Assistance and Associations while reading—making connections and monitoring understanding
- Reflection and Readiness for application after reading, thinking, talking, and writing about key learning ideas



Richardson and Morgan, 1994

Figure 9. PAR teaching.

We want to encourage different types of thinking in students, depending on whether we are preparing them to learn new material, helping them to process while reading, or aiding them in consolidating new learning in their existing memory banks (Buehl, 1995).

Notes

As a teacher plans for a unit of study, it is imperative she includes plans for teaching students how to read the text. A "Teacher's Guide for Teaching Reading in the Content Areas" can assist teachers with their planning.

	Lesson Preparation and Planning	Before Reading	During Reading	After Reading
• Determine key concepts and vocabulary?	X			
• Look over the text to determine its structure, type, and features?	X			
• Activate the students' knowledge of the key concepts?		X		
• Assess the quantity and quality of prior knowledge?		X		
• Base instructional decisions upon student responses?		X		
• Strengthen inadequate or inaccurate knowledge?		X		
• Model and encourage students to use prior knowledge in making inferences?			X	
• Analyze the effectiveness of the strategy I selected?			X	
• Focus on students who need additional support?			X	
• Help students relate the new information to the known information?				X
• Clarify inaccuracies or misconceptions?				X
• Assist students in organizing and classifying the information?				X

Figure 10. Teacher's guide

Notes

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As the teacher prepares for strategic teaching, the self-evaluation checklist will also serve as a helpful guide.

A Teacher's Self-Evaluation Checklist for Teaching Reading in Content Areas

1. Beginning of the Lesson

Does the teacher

- state clearly what strategy is to be learned?
- show when and where the strategy is applicable to real reading?
- list the sequence of steps in the strategy?
- model the mental process for applying the strategy?
- think out loud as a technique for modeling?
- make clear that there may be alternative strategies?

2. Middle of the Lesson

Does the teacher

- have an adequate number of suitable examples?
- restate the goal throughout the lesson?
- use techniques to focus students' attention on the features of the mental processing?
- gradually ask students to do more and more of the processing without any help?
- respond with assistance when students' misconceptions or restructuring lead to confusion?
- reward students for awareness of the process as well as for right answers?
- give each student an opportunity to verbalize the entire strategy?
- make frequent reference to the mental processing being employed?

3. Close of the Lesson

Does the teacher

- have students summarize the lesson?
- show when and where the strategy is applicable in real reading?
- provide or allow alternative strategies when appropriate?
- provide for student practice?
- guide students in using the strategy when reading real text (in the basal, the content-area text, during USSR, and so forth)?

Figure 11. Teacher's self-evaluation checklist

Conclusion

As classroom teachers consider new directions as to increasing student learning, examining current practices, and revising instructional programs, knowledge of research on crucial elements of the learning process becomes invaluable. During the past decade, the accumulation of findings related to the reading process has become significant and deserves close attention by all educators (NAEP, 1995).

Notes

There has been a conceptual shift in the way teachers think about reading. Students must be given a more active role in the learning and reading comprehension process. Students are continually asked to interact with books, and to participate in practical reading and writing activities, as opposed to memorizing isolated skills and facts by completing worksheets.

Yet improvements in higher-level reading skills cannot come about simply by an emphasis on reading instruction in isolation from the other work students do in school. Students must learn to read in all content areas. Every teacher must be a reading teacher! Even the best "reading teachers" cannot do it all; they cannot make learners into good readers in all content areas. Content-area teachers, as insiders in their field, hold the keys to helping learners understand informational text. When all teachers assume the responsibility of teaching learners how to comprehend text, students will attain high-level literacy skills and will develop thoughtful, critical elaboration of ideas and understanding; then we will be creating a nation of readers who enjoy reading for both pleasure and information.

Notes

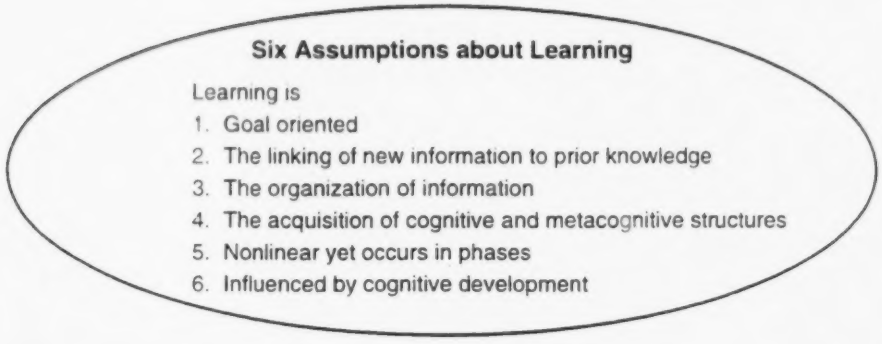
Section 4

Six Assumptions about Learning

Notes

"The knowledge is now available to make worthwhile improvements in reading throughout the United States. If the practice seen in the classrooms of the best teachers in the best schools could be introduced everywhere, improvements in reading would be dramatic."

Becoming a Nation of Readers, Commission on Reading, 1985


Six Assumptions about Learning
Learning is
1. Goal oriented
2. The linking of new information to prior knowledge
3. The organization of information
4. The acquisition of cognitive and metacognitive structures
5. Nonlinear yet occurs in phases
6. Influenced by cognitive development

Understanding how students learn is critical to making decisions regarding what is taught in the classroom, as well as how it is taught. Research articulates six assumptions, or propositions, about how students learn that have critical implications for instruction (Jones, Palincsar, Ogle, and Carr 1987). These assumptions serve as a useful and thoughtful framework when addressing reading in content areas.

Assumption 1: Learning is goal oriented.

Researchers and educators in various fields of inquiry increasingly agree that learning is goal oriented (Resnick, 1984). Specifically, skilled learners strive to reach two goals: to understand the meaning of the tasks at hand, often referred to as *constructing meaning*, and to regulate their own learning by being *independent learners*. This two-part theory comes both from research on cognition (the mental process of gaining or acquiring knowledge) and from research on metacognition (thinking about and controlling the process of learning).

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Emphasis on the importance of constructing meaning and upon independent learning is hardly new to most educators. Previous theories of how students learn assumed that learning was essentially a matter of responding to information provided by the given text. Reading was assumed to be a passive activity, occurring largely as a result of decoding and learning the meaning of individual words. The goal of reading, therefore, was to "approximate" the text (Pearson 1985), not to interact with it. *Becoming a Nation of Readers* (Anderson, Hiebert, Scott, and Wilkinson 1985), a review of research on reading, portrays the ideal reader as active, strategic, planful, and constructive in linking new information to prior knowledge. Thus, it is a remarkable change in thinking to conceptualize learning as dependent upon both prior knowledge and the application of specific strategies in order to construct and understand the ideas in a text.

Notes

According to Brown (1985) and Pearson (1985), the ideal reader works actively to construct the meaning of what is read and to monitor understanding of the text throughout the process. In addition to the holistic goal of understanding print, the learner may have any number of task-specific goals. For example, specific reading goals might include understanding a particular plot, learning how to summarize, and recognizing and dealing with comprehension failure. Specific goals can serve as powerful incentives for learners.

Assumption 2: Learning is the linking of new information to prior knowledge.

"Better learning will not come from finding better ways for the teacher to instruct but from giving the learner better opportunities to construct."

Seymour Papert
Author of *Mindstorms* and *The Children's Machine*

The assumption that learning is linking new information to prior knowledge emerges from and extends assumptions related to the goals of learning. Schema theory has been proposed to explain how prior knowledge and past experience are represented and stored in memory. According to this

theory, people develop complex mental idea structures called schemata (the plural of schema), which are mental maps, or frameworks, representing the sum of an individual's knowledge about a given subject, and which provide a structure or guide for understanding. Schemata are highly interrelated and have active properties that allow the learner to engage in a variety of reflective and planful cognitive activities, such as making inferences and evaluating text (Anderson 1984; Jenkins 1974).

In order to comprehend, we select a schema that seems appropriate and seems to fill in the missing information. Without the appropriate schema, trying to understand a story, textbook, or classroom lesson is like finding one's way through a new city without a map (Sorgen and Wolfe 1994).

The ideal reader usually begins the process of reading by skimming features of the text such as the title, subtitles, graphics, the introduction, or the summaries. This activates two kinds of schemata, the first being content and the second organizational patterns and genre. The reader then uses this information to form hypotheses or predictions about the meaning of the text and about the author's intentions. These hypotheses and predictions become the purpose for reading as the learner confirms or rejects them. At various times, the reader may summarize or compare the new information to existing schemata in terms of their match or fit with the hypothesis, and, as the meaning is modified, new questions arise that become the purpose for further reading (Jones, Palincsar, Ogle, Carr 1987)

Accessing prior knowledge is not an easy task. Often, students are confronted with factors affecting their use of prior knowledge. Readers may have difficulty activating the appropriate prior knowledge if the information at hand is unclear, disorganized, or lacking in meaning for them. The purpose identified for reading a selection will influence what is learned. For example, students told to read a description of a house from the perspective of a home

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buyer will tend to remember such things as the location and number of bathrooms, whereas students told to read the passage from the perspective of a burglar will be more likely to recall information about security systems and the number and location of windows (Jones, Palincsar, Ogle, and Carr 1987).

Success in learning situations depends on prior knowledge of specific content, but the existence of prior knowledge is not enough for either comprehension or recall. Students must be able to access what they know. Researchers discuss the problem of inert knowledge—knowledge that students have but cannot access because they are lacking the appropriate mental hook necessary to make the connection, or because they lack retrieval strategies (Bransford, Sherwood, Vye, and Rieser 1986). Many learning strategies are now available that help students access the appropriate information. The purpose of this publication is to identify some of these learning strategies.

Assumption 3: Learning is the organizing of information.
The ideal reader has knowledge of organizational patterns, which is an identifiable arrangement of ideas or information that can exist both "inside the head" as knowledge of organizational patterns and "outside the head" as organizational patterns in textual materials. The compare-and-contrast pattern, for example, can exist in the mind of the learner as well as on paper.

Textual materials are organized into two major text structures: narrative and expository (informational text). Science fiction, stories, poetry, and documentaries are examples of narrative text. Story structure defines the basic elements of well-developed narrative material (Vacca and Vacca, 1993); it also specifies the basic elements of a story (setting, plot, and theme) and how those parts tie together to form a well-constructed work. The structures of expository/informational writing are complex and frequently challenge even the most able reader. Text patterns represent the different types of logical connections among the important and less-important ideas in informational text (expository).

Notes

Eight text patterns seem to predominate in expository/informative writing:

1. Cause and effect
2. Compare and contrast
3. Concept and definition
4. Description
5. Goal and action and outcome
6. Problem and solution
7. Proposition and support
8. Sequential

These structures may be found in texts across disciplines.

Each of these expository/informational structures has its own distinctive characteristics that skilled readers learn to recognize and use to comprehend information effectively. Readers learn to rely upon these organizational structures for maximum understanding of a text. Anderson and Armbruster (1984) developed the concept of *considerate* and *inconsiderate text*. Considerate text is well-organized and clearly written, and the text structure fits the writer's purpose. Cue words are used appropriately, and the text has cohesion and unity of theme. Inconsiderate text is text that is difficult to understand because it is poorly organized and poorly written; it may be incoherent, lack signal words, have inappropriate text structures, or have vocabulary that is too dense and inappropriate for the reader's age level.

Current literature supports the use of frames and graphic outlining to enhance comprehension—the process of deriving meaning from print—and recall of written text. Graphic organizers provide a visual, holistic representation of facts and concepts, and their relationships within an organized frame; they serve as spatial learning strategies. Examples of graphic organizers are semantic maps, flow charts, webs or mind maps, and matrices or two-dimensional tables.

Notes

Writing and reading frames provide a sense of structure; they outline boundaries and delineate shape. For example, eyeglass frames, picture frames, and window frames all serve to hold something in a specific shape and form. Authors have a clear scheme for organizing written information. First, they identify the questions the written text must answer; this guides their subsequent selection of the most appropriate information for inclusion in the text and also determines the frame (Buehl, 1995).

Ideal readers who have internalized specific frames or graphic outline structures associated with a particular text structure are able to use that information in various ways to

1. Link new information to prior experience
2. Restructure prior knowledge
3. Locate information in what they read
4. Identify what is important and what is unimportant
5. Integrate and synthesize information from different locations within one text or from various texts
6. Sequence the order in which information is processed or produced in written responses
7. Represent information in accurate ways/terms
8. Impose organization on relatively unorganized information or information that is only implicitly organized

Assumption 4: Learning is the acquisition of cognitive and metacognitive structures.

Strategic learning demands that ideal learners be aware of and in control of their efforts to use specific skills and strategies to assist in their own learning. *Skills* are mental activities one applies to specific learning tasks, predicting and summarizing are examples of these skills. *Strategies* are specific procedures or ways of executing given skills. Strategic learners have command of their cognitive abilities and use metacognitive abilities to continually monitor their progress when using skills and strategies to learn. Metacognitive learners are aware of their thinking as they perform tasks and use that awareness to control what they are doing.

Notes

Learners with **strategic awareness** not only have knowledge of specific cognitive strategies but also know how and when to use them. **Strategic control** refers to the learner's capability to monitor and direct the success of the task (Jones, Palincsar, Ogle, and Carr, 1987). For example, when a student recognizes that a comprehension strategy has failed, he perseveres in order to find a new approach. The learner realizes that he is in control of the situation and is willing to find a strategy that will assist in learning. A large part of strategic control relates to the learner's ability to make decisions about the importance of the task, to manage, and to stick with the task until success is achieved. Strategic learners tend to stick to the job until it is done to their satisfaction and, as a result, more frequently attribute success to their own efforts.

Assumption 5: Learning is nonlinear, yet occurs in phases. Learning not only involves different skills and strategies but also different kinds of thinking throughout the learning process. Researchers believe that thinking occurs in three major phases:

Phase 1: **Preactive** thought or preparing for learning

Phase 2: **Interactive** thought or on-line processing that occurs during the actual learning

Phase 3: **Reflective** thought to integrate and apply what has been learned (Costa and Garmston, 1994; Buehl, 1995)

The **preactive phase**, preparing or planning for learning, involves activating prior knowledge in some way. This phase sets the stage for learning. Doug Buehl (1995) recommends "frontloading" instruction before students are sent into a reading assignment. A frontloading strategy such as **KWL** (Know/Want to Know/Learned) (see strategy 22, page 120) causes students to think about a specific topic before reading and to focus on what they want to learn. Practicing frontloading techniques like building background knowledge, pre-teaching key vocabulary, focusing attention, setting a reading purpose, and cuing students as to possible effective reading

Notes

strategies will go a long way toward ensuring learner success. During the **preactive phase**, learners establish a purpose for reading the text as well as a plan of action for learning.

During the **interactive phase**, thinking or on-line processing is important. During this phase of learning, participants are actively engaged in selecting from the text what they deem is important, and they undertake some method to organize this information. For example, students' predetermined hypotheses about the reading may be compared to their prior knowledge and to the information in the text. Sometimes hypotheses are confirmed and other times they are refuted. The Structured Notetaking (see strategy 34, page 149) strategy prompts students to read selectively and to organize important information in a meaningful way. Learning at this phase is a "start-pause" process. Ideal learners continually monitor and adjust their progress by applying strategies as necessary.

Reflective thought is an integral part of learning. John Dewey said, "We learn by doing if we reflect on what we have done." After reading, ideal readers reflect on what they have learned. Metacognition—self-monitoring of one's own thoughts, actions, beliefs, and emotions—is an integral part of the reflective phase. This thinking causes students to engage in a variety of activities to understand the text as a whole, to consolidate what has been learned, and to integrate new learning with prior knowledge in long-term memory.

A second part of reflection is to project ahead and search for ways to apply learned ideas. Ideal readers discover ways to extend what has been learned by applying the new knowledge or skills to novel examples or by transferring what has been learned to new situations. The RAFT (Role/Audience/Format/ Topic) (see strategy 28, page 134) writing strategy helps students to integrate new concepts into their previous understandings by having them personalize their learnings.

Notes

There are three distinct phases involved in writing about learning, each of which occur in a nonlinear manner. As one reads the text, it may be necessary to stop and reflect on prior knowledge and to develop new hypotheses. Thus, given the recursive nature of thinking and learning, it is likely that the same skill or strategy may be used in more than one phase (Jones, Palincsar, Ogle, and Carr, 1987).

The learner who is aware of each learning phase enjoys the opportunity to consciously self-assess progress throughout the learning act. Teaching strategies that encourage students to actively think about what they are reading and to apply what they have learned lead students to become more deeply engaged in the learning process. Activities that permit students to interact with other students tend to increase the motivation to learn and, as a result, promote active involvement. For example, effective student-led conferences cause students to think about their learning within each phase. Conference strategies such as questioning, inquiry, and listening promote metacognitive thinking.

Assumption 6: Learning is influenced by cognitive development. Not all children are equally prepared to understand the printed text. Expert, skilled learners tend to possess greater prior knowledge and to command more effective strategies than do less-proficient students. The literature, however, is clear. All students can be taught to use thinking and learning strategies, such as categorizing or summarizing. Furthermore, because low-achieving students are not likely to develop effective cognitive and metacognitive strategies spontaneously, learning situations enhanced by strategy instruction must be provided (Jones, Palincsar, Ogle, and Carr, 1987). Additionally, low achieving students need diverse opportunities to practice and apply skills to varied contexts with corrective feedback.

Notes

If students already have an efficient strategy for learning a skill or a given type of content, explicit strategy instruction may actually hinder achievement (for example, demanding that a proficient biker deliberately turn the handlebar toward the direction of the fall may almost assure that the biker and the bike will fall). As the skills and strategies are shared for learning information, it is important that the teacher be aware that not all learners benefit from strategy training. The overall goal of learning is for the students to think effectively, with little awareness of processing information consciously. Learning is a highly individual process and is greatly influenced by the cognitive development of the learner.

Notes

Section 5

Reading Strategies

Strategies for the Three Phases of Cognitive Processing		Preactive Preparation before teaching	Interactive Assistance during teaching	Reflective Reflection after teaching
Vocabulary Development	**Page Number**			
1 Concept Definition Mapping	68	X	X	X
2 Frayer Model	72	X	X	X
3 Mind-Sketching in Vocabulary Development	75	X		X
4 Semantic Feature Analysis	77	X	X	X
5 Semantic Mapping and Word-Map Diagrams	82	X	X	X
6 Stephens Vocabulary Elaboration Strategy (SVES)	84		X	X
7 Student VOC Strategy	87	X	X	X
8 Vocabulary Link	89	X	X	X
Narrative Text				
9 Character Maps	91		X	X
10 Directed Reading/Thinking Activity (DRTA) Narrative	93	X	X	X
11 Story Frame	94			X
12 Story Grammar/Maps	95		X	X
13 Story Mapping through Circular Pictures	98		X	X
14 Venn Diagram	99	X	X	X
Informational Text				
15 Anticipation Guides	101	X	X	
16 Concept Question Chain	105			
17 Directed Reading/Thinking Activity (D-R-T-A)	108	X	X	X
18 FIRE	110	X	X	X
19 Graphic Organizers	113	X	X	X
20 Group Summarizing	116			X
21 Informational Paragraph Frame	118			X
22 K-W-L (What I Know, What I Want to Learn, What I Learned)	120	X		X
23 Pairs Read	122		X	
24 Pre-reading Plan (PREP)	124	X		
25 Probable Passages	126	X		
26 Proposition/Support Outline	128		X	
27 Question-Answer-Relationship (QARs)	132		X	
28 RAFT-Role/Audience/Format/Topic	134			X
29 Reciprocal Teaching	137		X	X
30 SQ3R (Survey, Question, Read, Recite, Review)	140	X	X	X
31 Search Strategy	142		X	
32 Semantic Mapping	144	X	X	X
33 Story Mapping	146	X	X	X
34 Structured Notetaking	149	X	X	X
35 "Think-alouds"	152	X	X	X
36 Visual Imagery	155	X		X
Discussion Strategies for Informational & Narrative Text				
37 Community Circle	156			X
38 Creative Debate	157			X
39 Discussion Web	159			X
40 Scored Discussion	163			X

Vocabulary Development

1. Concept Definition Mapping

What is it?

Concept Definition Mapping (Schwartz and Raphael, 1985) is a strategy for teaching key vocabulary and related concepts. The strategy emphasizes understanding of the key concepts embedded within a reading passage. Concept Definition Maps are graphic structures that focus the reader's attention on the key components of a definition. Often, students are told, "Look up the vocabulary words in the dictionary and write the meaning." This practice provides the learner with a narrow and at best vague understanding of the words, and it does not allow him to attach personal meaning to the new words based on past experience. With the concept-mapping process, the learner is encouraged to integrate his personal knowledge into a definition. Concept-definition maps allow the student to construct a visual representation of a concept's definition, which helps him to remember.

How to use it.

1. Display an example of a Concept-Definition Map. (Use the overhead or a flipchart.)
2. Discuss the questions a definition should answer:
   - What is it? or What is the category?
   - What is it like? or What are essential characteristics?
   - What are some examples of it?
3. Model how to use a concept definition map by selecting a familiar concept and soliciting the relevant information for the map from the class. For example, eliciting the meaning of the concept of raw meat, students might identify it as "food." Properties for the "What is it like?" might include "usually bloody," "often red or white color," and "comes from animals." Examples might include pork, beef, and chicken.

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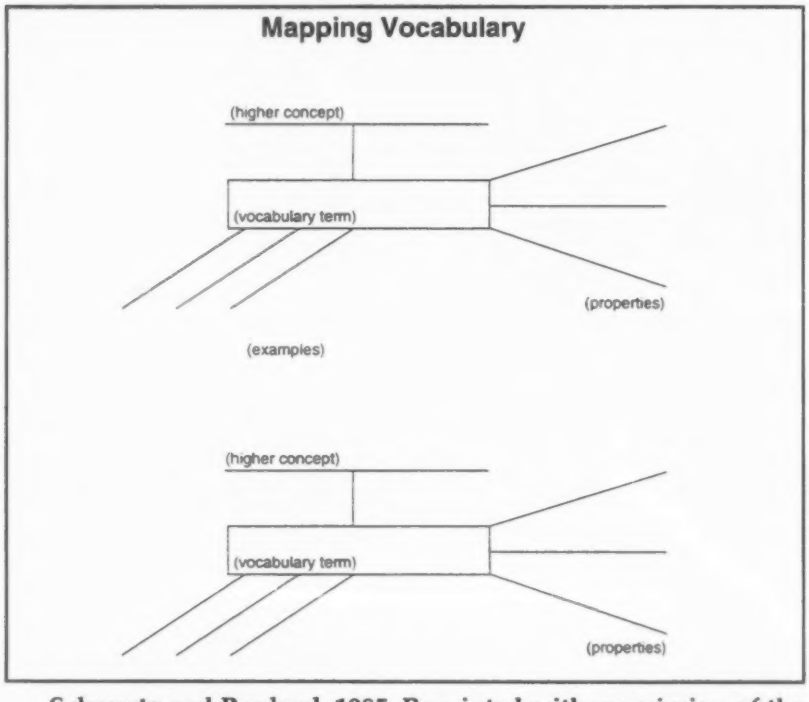
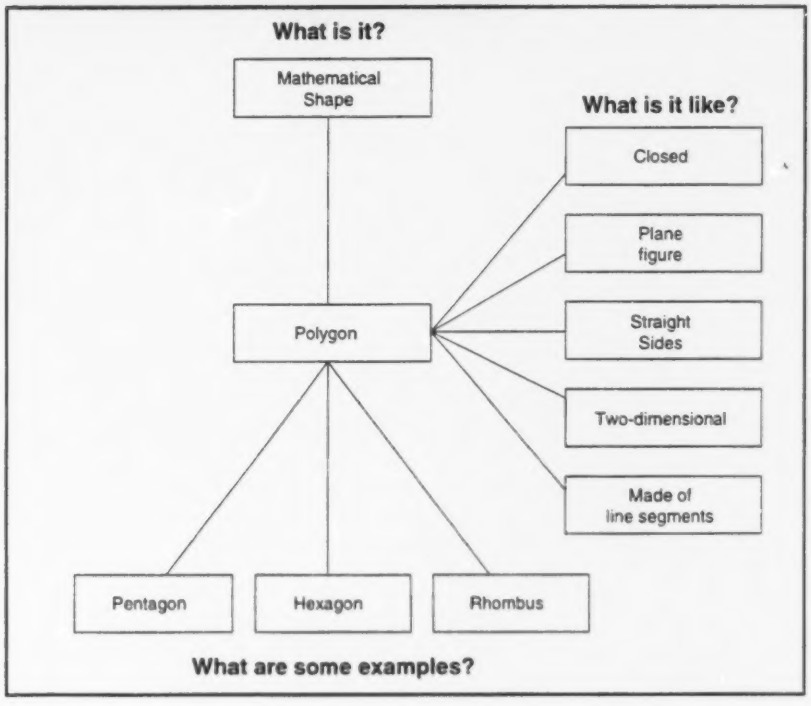
4. Present a word or concept from the material that the students are learning. Working in pairs, the students complete the map for the word or concept and then, using a dictionary or glossary, complete the map using the written passage containing the word and their own background or experience.
5. Once the concept maps are completed, instruct the students to write a complete definition of the concept using the information on the map. The definition should include what it is, the characteristics of the concept, and examples. A student definition for the concept "polygon" might be *"A polygon is a closed mathematical shape that is 2-dimensional with straight sides and line segments. A pentagon and a rhombus are polygons."*
6. Students can share their concept maps with other students. As students develop such maps for other key words and concepts, they can be used as review and to study for tests.

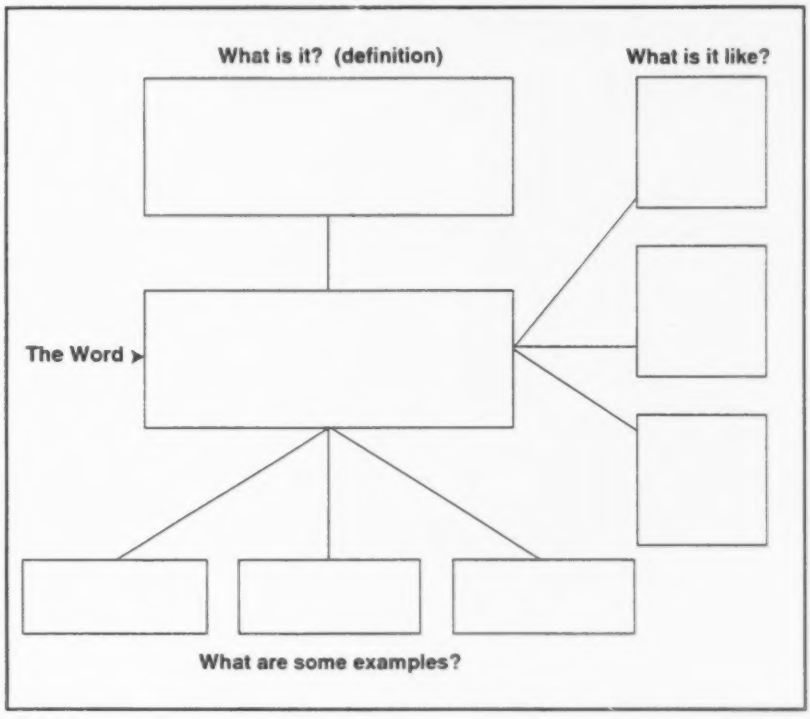
Examples of Visual Representations



Schwartz and Raphael, 1985. Reprinted with permission of the International Reading Association. All Rights Reserved.

Vocabulary Development





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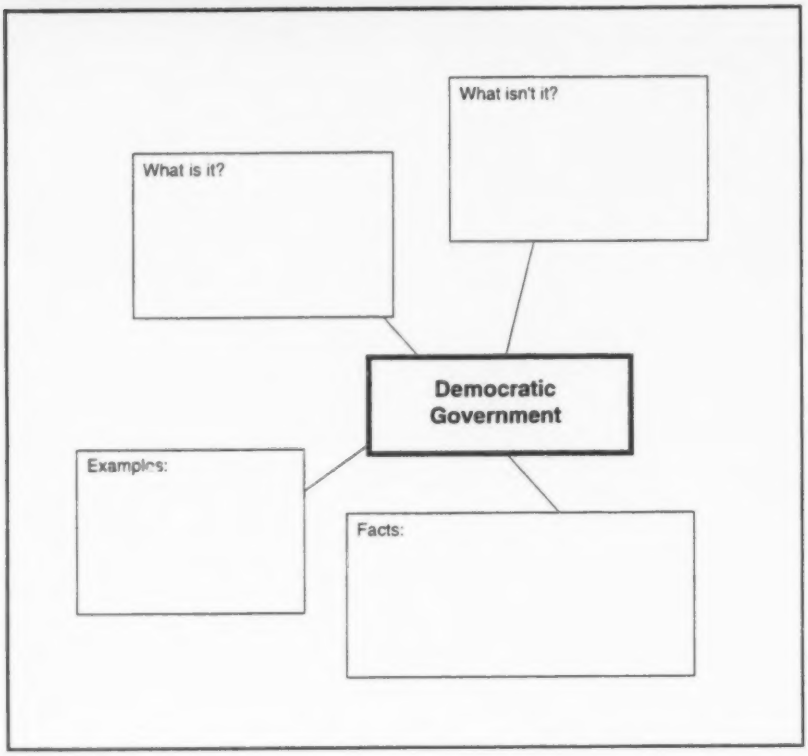
Vocabulary Development



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Vocabulary Development

2. Frayer Model

What is it?

The Frayer Model (Frayer, Frederick, and Klausmeier, 1969), a word categorization activity, was developed to analyze and test attainment of concepts. Frayer considers it essential to present concepts in a relational manner so students see the components in the learning process. For example, categories might include both essential and nonessential characteristics, or examples and non-examples. The "Four Square" version of the Frayer Model works well with younger children.

How to use it.

1. Assign the concept or word being studied.
2. Explain all of the attributes of the Frayer Model to be completed.
3. Using an easy word such as *polygon*, complete the model as a large group.
4. Have students alone or in small groups complete their model diagram using the assigned concept or word.
5. Once the diagram is complete, have students share their work with other students. If students develop the diagram on chart paper with colored markers, they can be easily displayed and shared. Display the posters during the entire unit of study so that students can refer to the words being studied. Students can continue to add ideas to displayed models of words.

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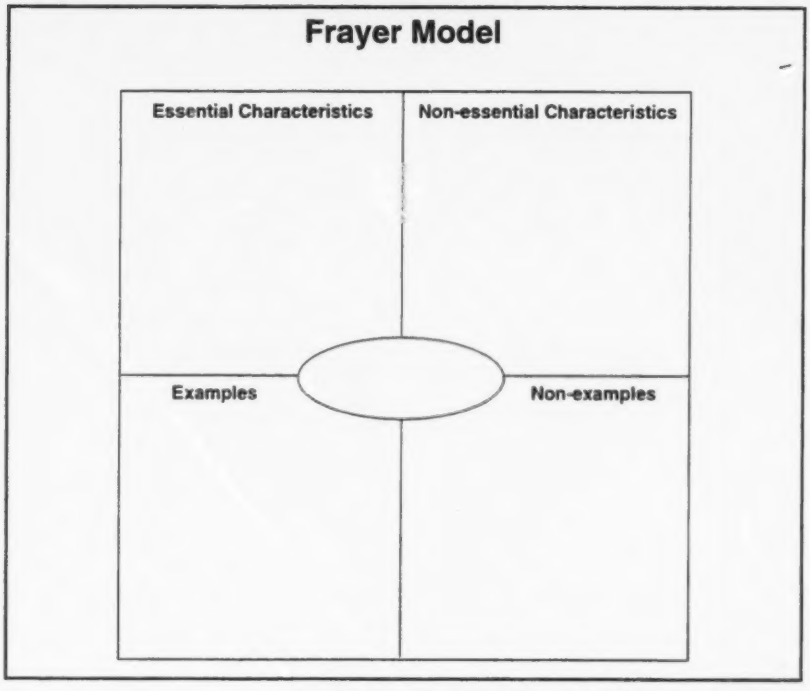
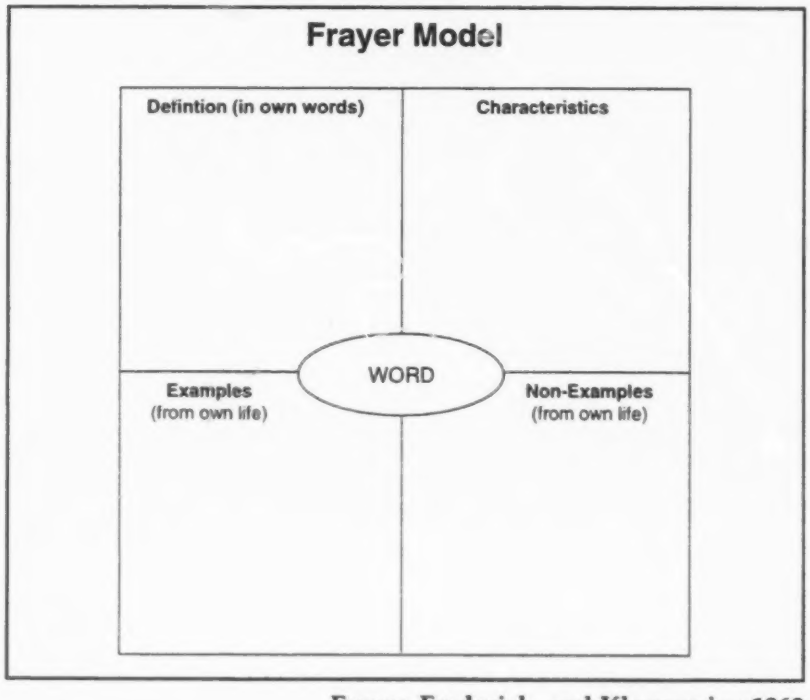
Examples of Visual Representations



Frayer, Frederick, and Klausmeier, 1969

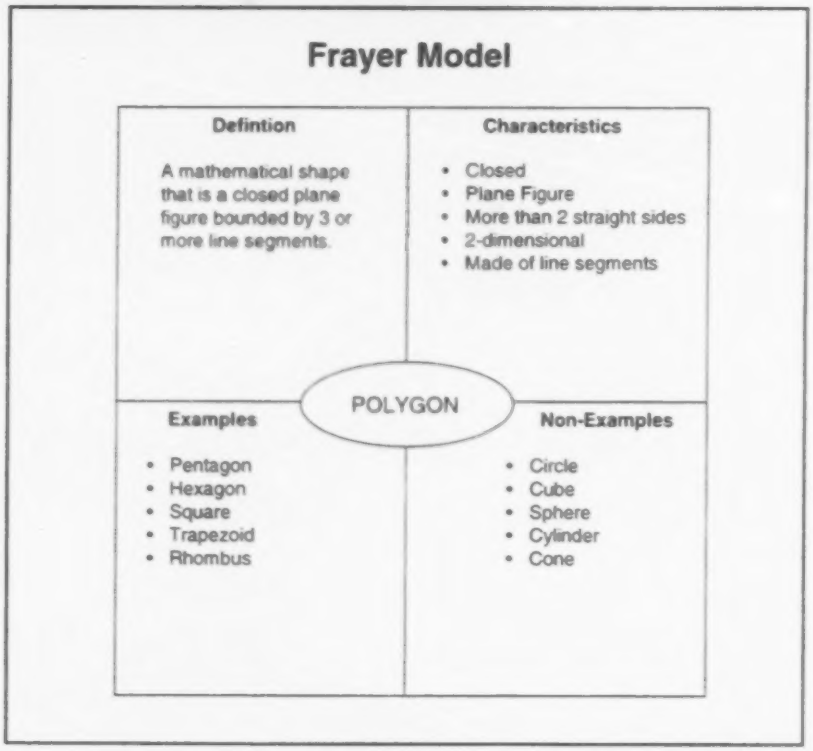


Frayer, Frederick, and Klausmeier, 1969

Notes

Vocabulary Development

Frayer Model



Frayer, Frederick, and Klausmeier, 1969

Notes

3. Mind-Sketching

What is it?

Mind-sketching is representing the meaning of a word in pictures. The brain has an amazing ability to construct and retain images. In one study, subjects were shown over 10,000 pictures. Later, when shown some of these same pictures mixed with new ones, they were able to identify the ones they had seen before with 90% accuracy. It is possible to increase understanding and retention of vocabulary words by having students sketch the meaning of each word. The brain loves pictures and remembers them more easily than words (Sorgen and Wolfe, 1994). When a student sketches the meaning of a word, she is processing at a high cognitive level of thinking and understanding. For example, if someone were asked to sketch the meaning of *hot*, he might draw a cup of coffee; this allows him to pull from his experience and add personal meaning. What else could be sketched for *hot*?

How to use it.

1. Select the content concept(s) to be learned.
2. Determine the vocabulary words that promote understanding and application of the concept(s) to be learned.
3. Provide the learners with an overview of the content to be learned, highlighting the concept(s) and the critical vocabulary words.
4. Organize teams of students and assign each member a few vocabulary words.
5. Each student works individually with her words to do the following:
   - Write each word.
   - Look up each major word in a dictionary or textbook glossary.
   - Read the definition.

Notes

Vocabulary Development

- Make a sketch that represents the definition of each major word.
- Determine how to share the meaning of each word using the sketch with team members.

6. Team members share their words by doing the following:
   - Share each sketch, along with the meaning and the word it represents.
   - Look up the word again in a dictionary or textbook glossary.
   - Read the definition aloud.
   - Examine the sketch and discuss the meaning it represents.
   - Change the sketch if necessary.
   - Create an "essence" phrase for each word.

Notes

4. Semantic Feature Analysis

What is it?

The Semantic Feature Analysis (Johnson and Pearson, 1984) strategy guides students through a vocabulary analyzing process by identifying key characteristics and comparing these characteristics with other known concepts. Students develop a matrix grid and code a number of key vocabulary or concepts in terms of several important characteristics or features. When students have completed a semantic feature matrix, they have a visual reminder of how various concepts are alike and different. This process allows students to analyze key vocabulary as concepts rather than as meaningless definitions. The Semantic Feature Analysis matrix can be continually expanded and refined during a unit of study. As students encounter new words, they can be added to the matrix. Students find that the matrix provides an excellent summary of concept features and assists in reviewing for exams.

How to use it.

1. Select a category of concepts to be analyzed. Use concrete concepts with younger students such as sports,, food, farm animals, or board games. As students become more experienced, abstract categories such as geometric forms, character traits, novels, forms of governments, or angiosperms (flowering plants) can be analyzed with this strategy.
2. List several terms within the selected category in the left column of the Semantic Feature Matrix. These words should be familiar to the students. For example, words within the category of geometric forms might include square, circle, rectangle, and triangle. Words within the category of farm animals might include duck, cow, pig, dog, cat, and horse.

Notes

Vocabulary Development

3. Next, list three or four key features or characteristics that these words share. Features for geometric forms may include: "closed figure," "four sides," and "made of line segments." Features for farm animals might include "has fur," "house pet," "has a tail," and "lays eggs."
4. Students now code each feature in terms of whether the selected words typically possess that feature. A plus sign (+) is entered if the word exhibits that feature; a minus sign (-) is entered if the word does not exhibit that feature. A question mark (?) is entered if the students are not sure.
5. Students are encouraged to explain both their matrix and their markings on the grid with other students. Explaining their rationale for markings enhances understanding of the concept.
6. Students are then ready to add more words within the selected concept and more features to be analyzed. Other farm animals suggested by the students could be chicken and sheep. Other features might focus on "served as food" or "hide used to make clothes and accessories."
7. Examine the matrix and discuss similarities and differences between the terms for the category. Guide students in developing generalizations about how each word is unique from other related concepts. If two words have exactly the same pattern of pluses and minuses, challenge the students to identify a feature that will differentiate between the two.

Notes

Vocabulary Development

Examples of Visual Representations

Semantic Feature Analysis

Concept: polygons

Polygons	opposite sides parallel	equilateral	equiangular	4-sided	3-sided
square	X	X	X	X	
rectangle	X		X	X	
triangle					X
rhombus	X	X		X	
trapezoid				X	

Concept: political parties of the late 19th century

	no subsidies to private corporations	McKinley Tariff Act	gold standard	assist debtor farmers	Pendleton Act	increase money supply	Australian ballot	lower tariffs
Populist								
Republican								
Greenback Labor								
Democrat								
Progressive								

Notes

Vocabulary Development

Concept: Farm animals

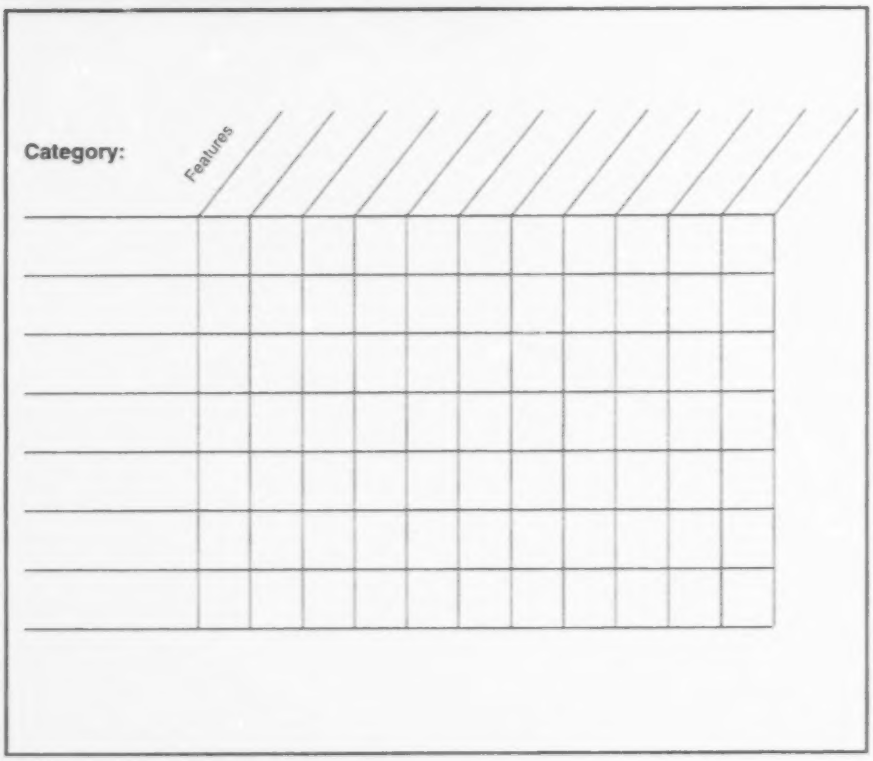
Farm Animals	four legs	lays eggs	has a tail	has fur or hair	has feathers	house pet
Cow	X		X	X		
Dog	X		X	X		X
Duck		X	X		X	
Cat	X		X	X		X
Chicken		X	X		X	
Pig	X		X	X		
Horse	X		X	X		

Concept: Geometric Figures

Geometric Figures	closed figure	4-sided figures	made of line segments	2-dimensional figure
Circle	X			X
Square	X	X	X	X
Rectangle	X	X	X	X
Octagon	X		X	X
Triangle	X		X	X
Trapezoid	X	X	X	X

Notes

Vocabulary Development



Notes

5. Semantic Mapping

What is it?

Semantic word maps are similar to graphic organizers in that they may be used to depict spatial relationships among words. The semantic mapping procedure draws heavily on activating prior knowledge of the topic while preparing students to understand, assimilate, and evaluate the information to be read. In addition, semantic word maps include brainstorming and the use of collaborative small groups. Mapping allows students to cluster words belonging to categories and to distinguish relationships among words.

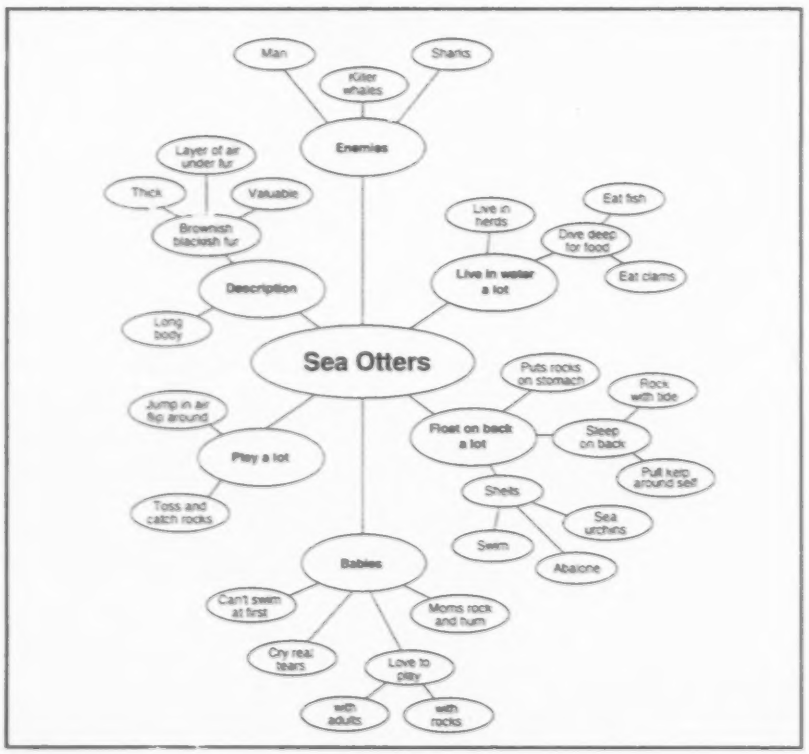
How to use it.

1. Choose a word or topic related to classroom work.
2. List the word on a large chart tablet or on the chalkboard.
3. Encourage the students to think of as many words as they can that are related to the selected key word. Then, they should list the words by categories on a sheet of paper.
4. Students share the prepared lists orally, and all words are written on the class map in categories.
5. Students can gain further practice in classification by labeling the categories on the semantic map.
6. After reading the story, students can add words and new categories to their own copies of the map.
7. Discussion of the semantic map is, perhaps, the most important part of the lesson. The purpose of the exercise is to encourage students to become aware of new words, to gather new meaning from old words, and to see the relationships among all the words.

Notes

Vocabulary Development

Examples of Visual Representations



Notes

6. Stephens Vocabulary Elaboration Strategy (SVES)

What is it?

The Stephens Vocabulary Elaboration Strategy (Brown, Phillips, Stephens, 1993) acknowledges the need for developing in-depth understanding and for broadening both meanings and context of new or familiar words and of technical terms that are specific to a content area. Students using this approach develop an understanding of the shades of meaning, nuances, and emotional connotations that words acquire. They also see how words change in response to the broad social context, as well as to the setting and the time frame in which the words are used. This strategy was developed in detail earlier in this document. Teachers using this process may have their students either keep a vocabulary notebook or have a special section of their class journals for vocabulary. As new words are introduced, students add them to their vocabulary section along with a definition and an example of the word's use. As students encounter each word or phrase in additional contexts, they add to their entries.

How to use it.

See the visual representation on the following page and refer to pages 18-21 for full discussion of this strategy.

Notes

Examples of Visual Representations

Stephen's Vocabulary Elaboration Strategy
How to Use It

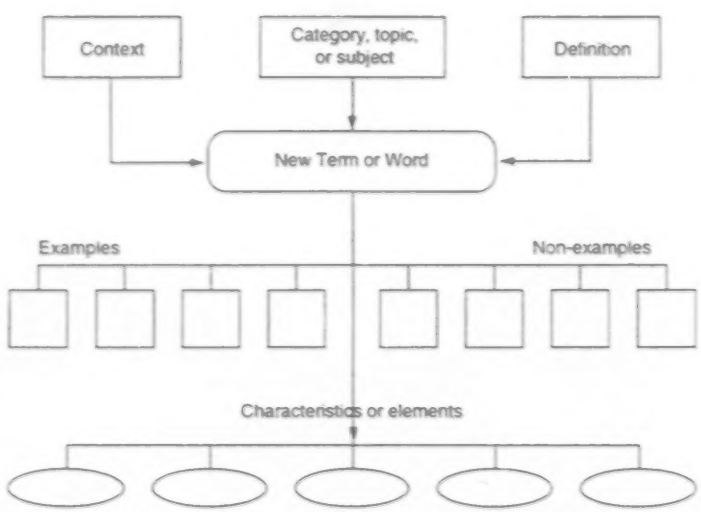
Led by Teacher or Done in Collaborative Learning Groups

A. Initial Encounter with Word (or Phrase)
   1. Write word and date first encountered.
   2. Describe context of initial encounter.
   3. Explore, discuss, and begin to formulate a definition related to that context.
   4. List examples generated from personal experiences and prior knowledge.
   5. List non-examples generated from personal experiences and prior knowledge to show what the word is not or how it differs from other closely related words.
   6. Write a definition in your own words; compare with dictionary or glossary.
   7. Develop appropriate graphic organizers, such as word maps, attribute charts, and compare/contrast diagrams.
   8. Create visual association drawings, if appropriate.

B. Additional Encounters with Word
   1. Write additional date(s) encountered.
   2. Describe context of new encounter and compare with previous contexts.
   3. Explore, discuss, and begin to formulate a definition in new context(s) and relate to previous definition(s).
   4. Add to, revise, and elaborate on work done in steps 4, 5, 6, 7, and 8, listed under Initial Encounter.

Brown, Phillips, and Stephens, 1993

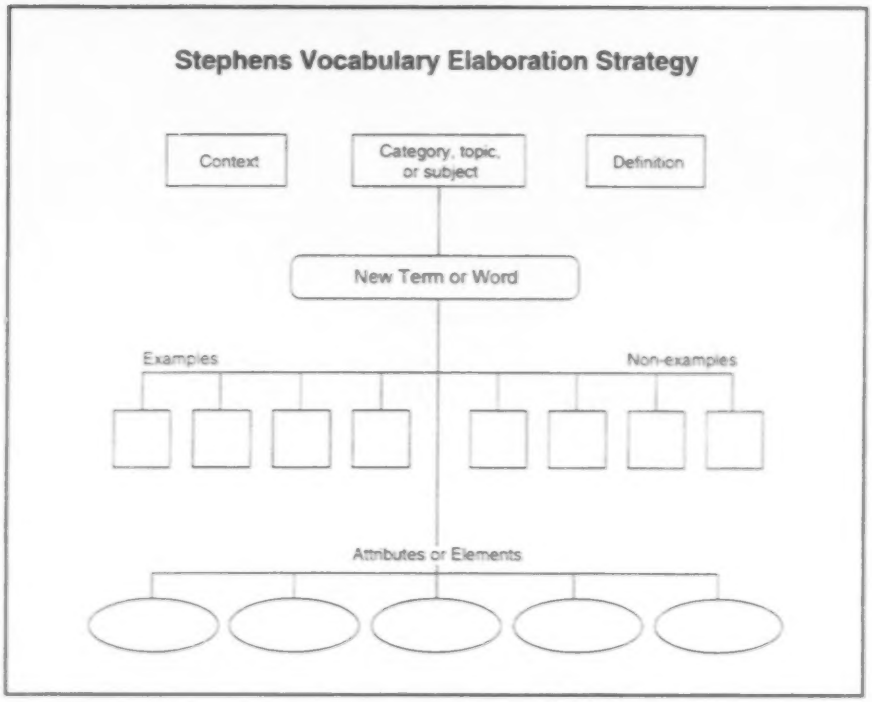
Stephen's Vocabulary Elaboration Strategy for Elementary Grades



Brown, Phillips, and Stephens, 1993

Notes

Vocabulary Development



Brown, Phillips, and Stephens, 1993

Notes

7. Student VOC Strategy

What is it?

The Student VOC Strategy allows students to use prediction skills based on context when learning vocabulary words. The strategy incorporates two senses, through writing words and drawing images. As students predict the meaning of words based on their use within the sentence, they are asked to confirm their prediction by looking up the word in a dictionary or glossary. Once the students develop an understanding of the word in writing, they are asked to draw an image of the word. When students are asked to both write and sketch an image,they are engaged in a "whole brain" activity that increases retention.

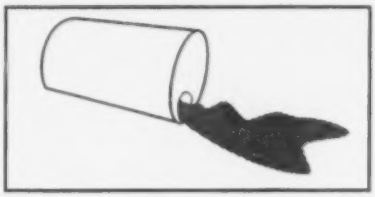
How to use it.

1. Students are assigned a passage to read.
2. Key vocabulary words, written on the chalkboard or chart, are shared with the students in advance.
3. The students are directed to study the words they do not know, using the Student VOC Strategy.
4. Write the actual sentence in which the word appears. For example, "The group members began to divulge their feelings about life."
5. Write the word and a predicted definition. The word is *divulge* and the predicted definition for *divulge* is to speak out.
6. Write a sentence that demonstrates current understanding of the word. "I never divulge information told to me."
7. Check the word's meaning in a dictionary or glossary and write its definition.

   The verified definition is "to reveal, to make public."
8. Examine the sentence in step 6 and (if necessary) write a sentence based on a more comprehensive definition of the word; for example, "I never divulge a secret that a friend has entrusted to me."

Notes

9. Draw an image to help you remember the word.



Examples of Visual Representations

Student Vocabulary Strategy

Six steps:
1. Write the actual sentence in which the word or phrase appears.
2. Write the word and a predicted definition.
3. Write a sentence of your own that demonstrates your understanding of the word.
4. Check the word's meaning in a dictionary or glossary and write its definition.
5. Examine the sentence in step 3 and write a better one now.
6. Draw an image to help you remember the word, or create an associative word link.

I never divulge a secret that a friend has entrusted to me.

divulge
WORD

ASSOCIATION OR SYMBOL

PREDICTED DEFINITION
speak out

ONE GOOD SENTENCE
The group members began to divulge their feelings about life.

VERIFIED DEFINITION
to reveal, to make public

ANOTHER GOOD SENTENCE
Even though tortured, he never divulged the secret of the hideout.

Notes

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8. Vocabulary Link

What is it?

The Vocabulary Link strategy allows students to use prior knowledge when learning new words, as well as to attach personal meaning. Students are asked to think about a set of related vocabulary words that the teacher has previously taught. The students think how they could link the words logically or sequentially. They arrange the vocabulary words in a circular linking formation. Students must be able to verbalize their organization of the words in the vocabulary link. As students share their rationale for organizing the words, their prior knowledge of the words becomes evident.

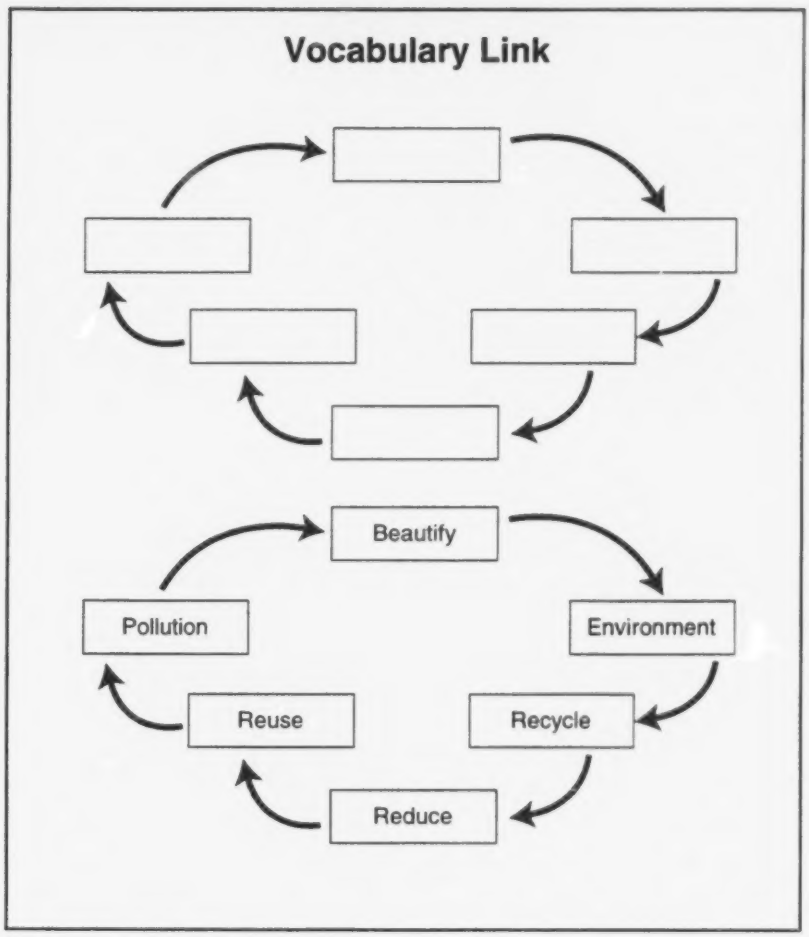
How to use it.

1. Students are assigned a set of related vocabulary words pertaining to a concept being studied.
2. Students determine what they know about the vocabulary words and how they are related.
3. They create the vocabulary link by writing one word in each box.
4. After all of the words are recorded in the link formation, students write a relationship sentence(s).

Notes

Vocabulary Development

Examples of Visual Representations



Notes

9. Character Map

What is it?

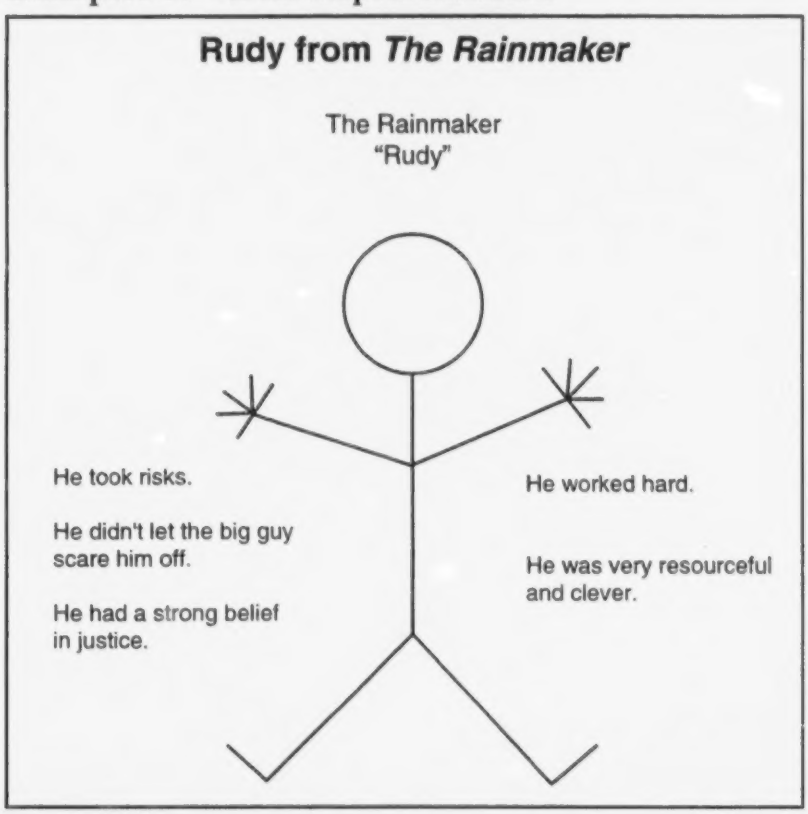
One good way to better understand the characters in a story is to make a character map. The visual image created by such a drawing enhances understanding and promotes retention.

How to use it.

1. Read the story.
2. Draw a simple picture of the character of interest.
3. Near the picture, make four or five lines for writing what the character does or says.
4. Make a long line beneath the picture for writing a sentence that tells what kind of person the character is.

Examples of Visual Representations

Rudy from *The Rainmaker*

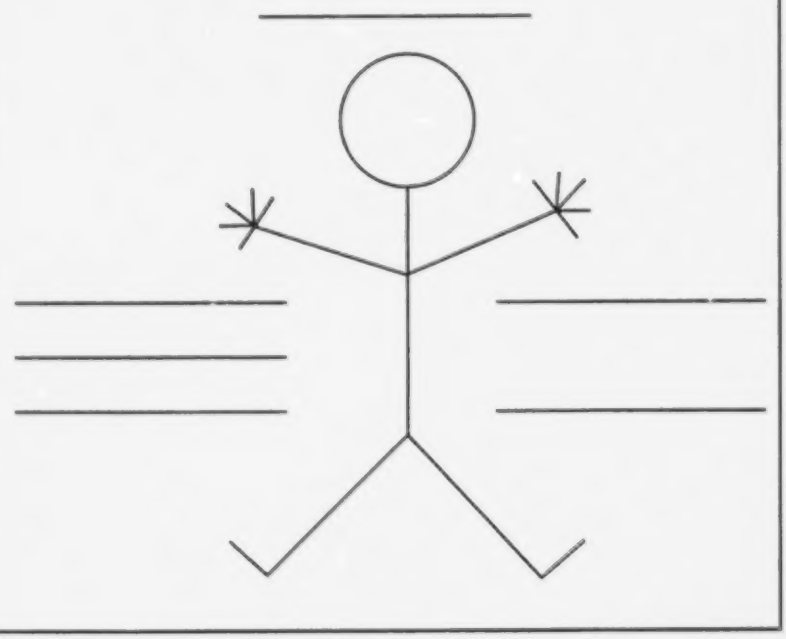

The Rainmaker
"Rudy"
He took risks.
He didn't let the big guy scare him off.
He had a strong belief in justice.
He worked hard.
He was very resourceful and clever.

Notes

Now it's your turn!

Practice making a character map of

- a friend
- a loved one
- your principal
- other



Notes

10. Directed Reading/Thinking Activity (DRTA)

What is it?

Directed Reading/Thinking Activity engages students in comprehension monitoring through three steps:

1. Declaring purpose
2. Reasoning while reading
3. Judging or evaluating

D-R-T-A helps readers construct meaning in their own minds, framing their questions in the form of predictions.

How to use it.

1. Declaring Purpose: Have the learners make predictions and set purposes for reading by sampling the title only. After students share their ideas, the teacher needs to supply missing background information and clarify purposes for reading.
2. Have the students read independently a segment of the story selection.
3. Reasoning while reading: Discuss what was read and answer teacher and student questions. New questions and predictions are generated by the teacher and students.
4. Students continue to read the story selection to answer questions and predictions.
5. Judging or evaluating: Once the story selection is completely read, the students accept or reject concepts suggested in the selection. Readers defend their judgments by using references from the text.
6. Students are asked to relate new knowledge to prior knowledge.

Notes

11. Story Frame

What is it?

Learners with more advanced reading and writing abilities can expand their comprehension by using a "Story Frame" on the next page (Fowler, 1982). A narrative text and a story frame (shown below) is needed for this activity.

Story Frame

In this story, the problem starts when _____

_____

After that, _____

_____

Next, _____

_____

Then, _____

_____

The problem is finally solved when _____

_____

The story ends _____

_____

How to use it.

1. Present the story frame to students before reading the story.
2. Read the frame with learners, noting the blank spaces they are supposed to complete.
3. Ask learners to read the story.
4. Ask learners to complete the story frame independently, using information from the story.
5. After learners complete the story frame, help them evaluate how well they have captured the sense of the story by reviewing the narrative text.

Notes

12. Story Grammar/Maps

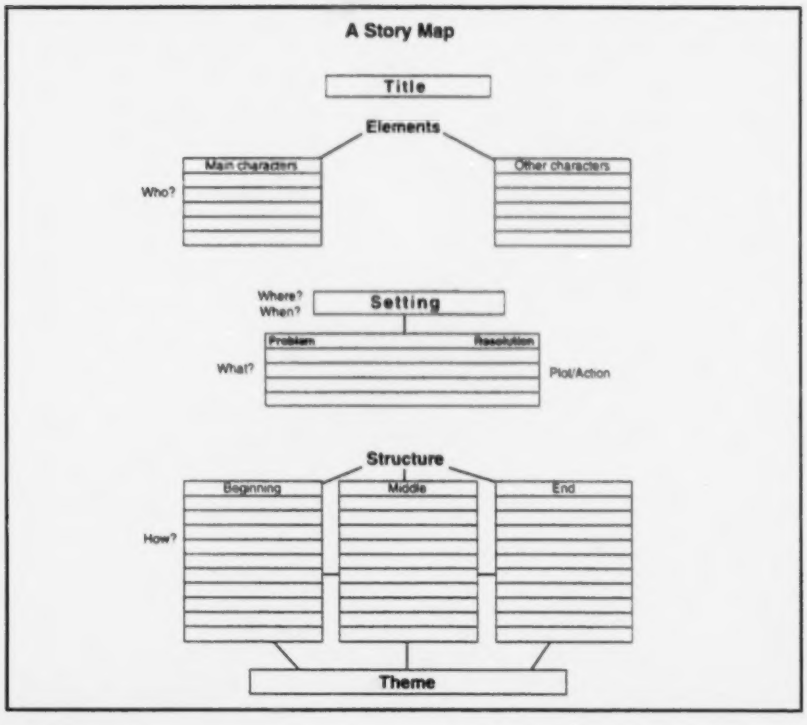
What is it?

A Story Grammar describes the structure of a story, including story elements (setting, characters, problem, events, resolution, and theme) and their relationships to one another. A Story Map (Beck and McKeown, 1981) is a graphic representation of the structure of a story; it gives students a structure for retelling stories. Teachers use Story Grammar/Maps to help students develop and enhance their sense of story.

How to use it.

1. The teacher constructs a Story Map outline, and the students fill in the specific information after reading the story selection.
2. Students may construct their own Story Maps using the necessary story elements.
3. Story Maps might be shared and discussed in small groups.

Examples of Visual Representations



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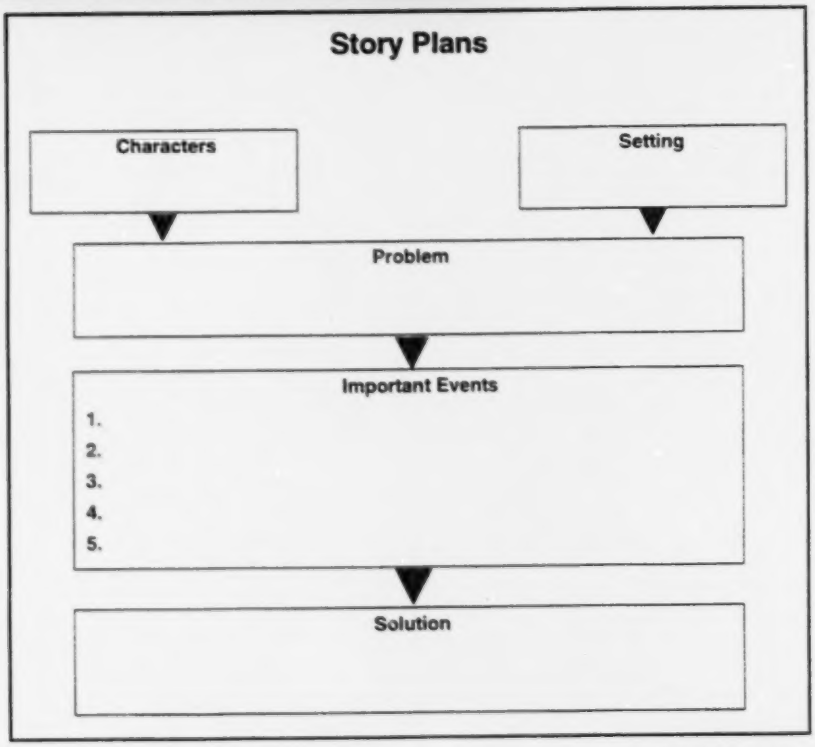
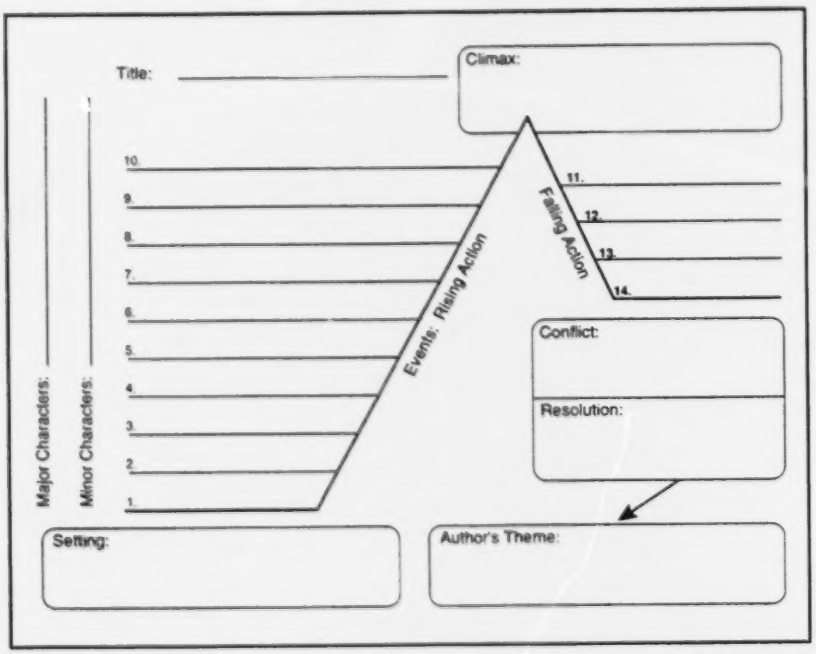
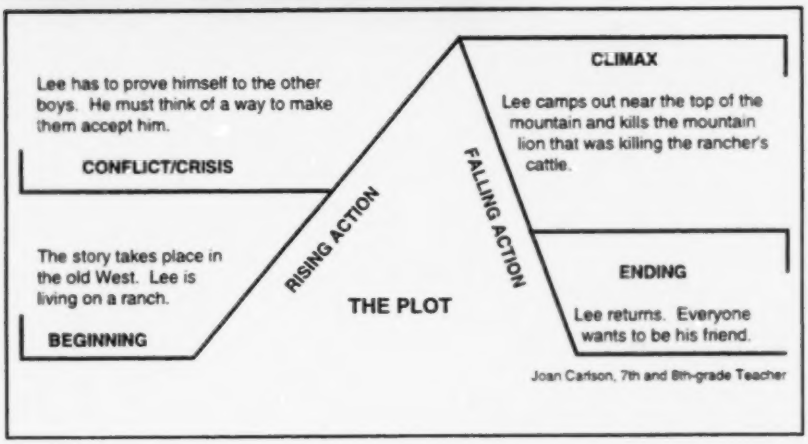


Buehl, 1995



Buehl, 1995

Narrative Text


Lee has to prove himself to the other boys. He must think of a way to make them accept him.
CONFLICT/CRISIS
The story takes place in the old West. Lee is living on a ranch.
BEGINNING
RISING ACTION
THE PLOT
FALLING ACTION
CLIMAX
Lee camps out near the top of the mountain and kills the mountain lion that was killing the rancher's cattle.
ENDING
Lee returns. Everyone wants to be his friend.
Joan Carlson, 7th and 8th-grade Teacher

In Sorgen and Wolfe, 1994

Notes

13. Story Mapping Through Circular Pictures

What is it?

Story Mapping (Routman, 1991) using circular pictures helps learners put events of a story into sequence. The visual image created by the circular pictures enhances understanding and retention.

How to use it.

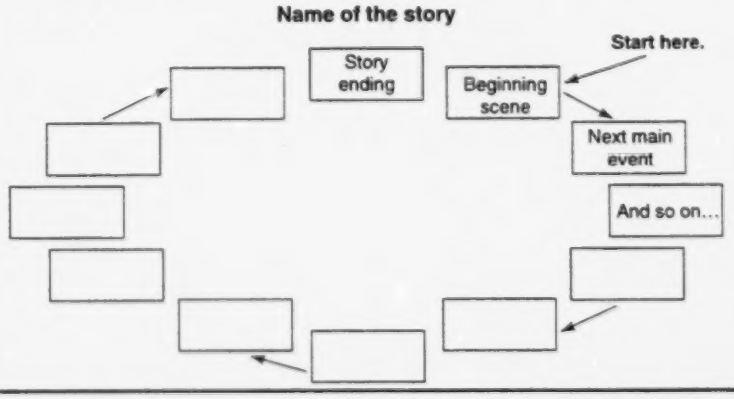
1. After reading a story or book, ask the learners to draw a brief sketch of the beginning of the story in the 1 o'clock position of a large circle with twelve blank boxes.
2. Ask the learners to continue drawing the main events of the story in a clockwise fashion, ending with the final picture in the 12 o'clock position.
3. Ask the learners to explain their decisions about the main events.
4. Have students share their circular story maps with each other, comparing their ideas and sketches.

Examples of Visual Representations

Story Mapping through Circular Pictures

Try Story Mapping to help learners put events of a story into sequence.

1. After reading a selection, ask the learners to draw a brief sketch of the beginning of the story in the 1 o'clock position of a large circle with twelve blank boxes (see example below).
2. Ask learners to continue drawing the main events of the story in a clockwise fashion, ending with the final picture in the 12 o'clock position.
3. Ask the learners to explain their decisions about main events.



Routman, 1991

Notes

14. Venn Diagram

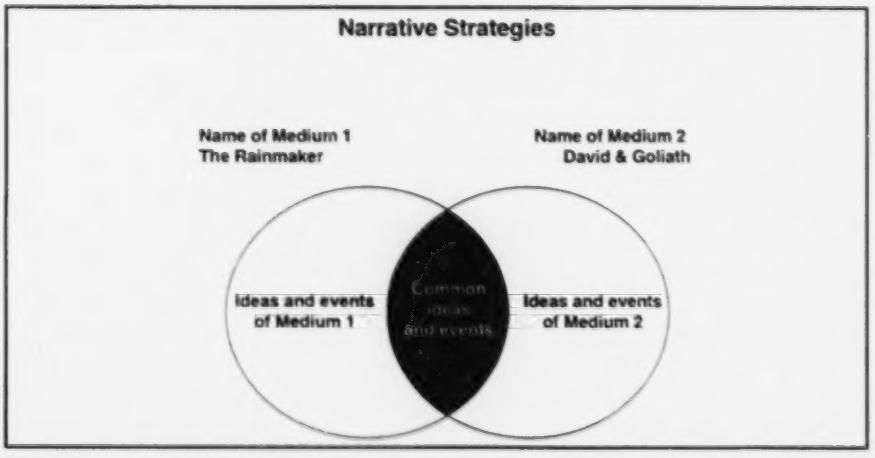
What is it

A Venn diagram requires the learner to compare and contrast two narrative items being studied. Learners can use a Venn Diagram to compare two books, two versions of a story, or a story told in two different mediums, such as a book or a videotape.

How to use it.

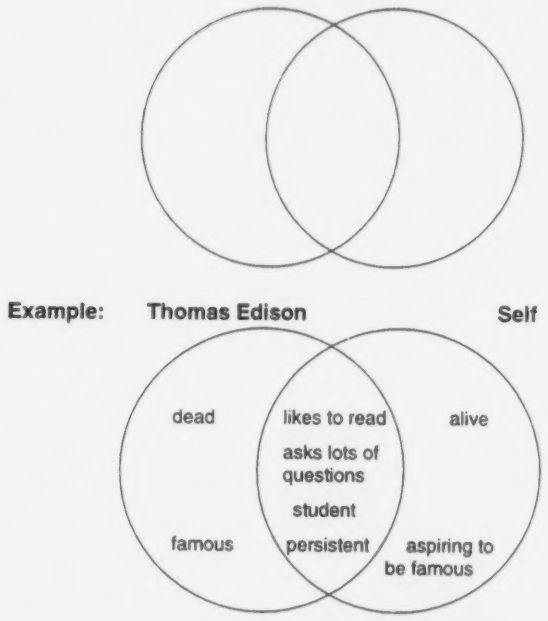
1. Draw two interconnecting circles, and above each circle label the medium that will have ideas listed in that circle.
2. Present the Venn diagram to the students before reading the story.
3. Discuss the Venn diagram with learners, noting the items they will compare and contrast.
4. Ask learners to read the story.
5. Ask learners to complete the Venn diagram independently, using information from the story.
6. After learners complete the Venn diagram, have them compare the diagrams with each other such that they provide support for their thinking.

Examples of Visual Representations



Notes

Venn Diagram



Notes

15. Anticipation Guide or Prediction Guide

What is it?

The Anticipation/Prediction Guide (Herber, 1978) is a pre-reading strategy that helps the reader activate prior knowledge and determine the purpose for reading. The guide can serve as a focus for reading by identifying important points and major concepts. The Anticipation Guide strategy helps the teacher identify and correct misconceptions. Once the learner predicts the story content, he is encouraged to search for evidence that supports each of his prediction statements. As a result, the strategy promotes active reading and critical thinking.

How to use it.

1. Identify the major concepts to be learned in the text or in the information source being used.
2. Determine how the main concepts support or challenge the student's beliefs.
3. Create three to ten statements that support or challenge the student's beliefs and experiences about the topic under study. The statements may focus on important points, major concepts, controversial ideas, or misconceptions. Do not write simple, literal statements that can be easily answered.
4. Arrange the statements on an overhead or worksheet in the order in which the concepts are dealt with in the text.
5. Present the guide to the students. Ask the students to think about each statement, formulate a response to it, and be prepared to defend their opinions. Children may respond individually or they may work in groups to formulate a collective response.
6. Discuss each statement briefly. Begin by asking how many children agree or disagree with each statement and then tally students' responses. The short discussion of each statement should involve at least one response from each side of an issue.

Notes

Notes

7. Direct the students to read the selection with the purpose of finding evidence to either determine the validity of the positions they took during the prereading step or to change those positions.
8. During the post-reading step, students are asked to confirm their original predictions, revise them, discard them, or decide what additional information is needed. Students may be encouraged to rewrite each statement that was not true in a way that makes it true.

Examples of Visual Representations

Anticipating Prediction Guide Examples

Concept: Anticipation Guide Unit 9
Jacksonian Politics and the Industrial Revolution (1820-1840)

	Agree	Disagree	
1.	❑	❑	John Quincy Adams became President when Henry Clay used his influence in the House to have Adams chosen over Andrew Jackson.
2.	❑	❑	Jackson split the Democratic-Republican party and won the election of 1828 for the Democrats.
3.	❑	❑	"To the victor belong the spoils" means that Jackson can give government jobs to friends who were loyal to him.
4.	❑	❑	The South liked the idea of a "protective tariff."
5	❑	❑	Southern states, citing the idea of "states rights," said they could nullify or ignore any law of Congress. They could also secede from the Union.
6.	❑	❑	North Carolina led other Southern states in nullifying, and threatening to secede from the Union, over the Tariffs of 1828 and 1832.
7.	❑	❑	Andrew Jackson vetoed the plan by Congress to remove the Cherokee, Choctaw, Chickasaw, Creek, and Seminole Indians from their land to land west of the Mississippi River.
8.	❑	❑	Martin Van Buren became the President after Jackson, but because Jackson's economic policy caused the country to go into a recession, he only lasted one term.
9.	❑	❑	Samuel Slater was able to easily bring plans for the first factory in America over from England.

Developed by Chuck Pilar

Anticipation Guide Example

Directions: **Before reading** "Amazing Space Facts," read each of the following statements carefully. Put a check next to each statement with which you agree or disagree. Be prepared to support your decision.

After reading "Amazing Space Facts," reread the statements. Put a check next to each statement with which you agree or disagree. On the line that reads "Evidence," write the details from the text that support your response. Change incorrect statements so they are correct.

Before you read			**After you read**	
Agree	Disagree		Agree	Disagree
❑	❑	1. Our galaxy is shaped like a ball and is called the Milky Way.	❑	❑
❑	❑	2. There are nine planets in our solar system.	❑	❑
❑	❑	3. Our sun is called a planet.	❑	❑
❑	❑	4. It is possible for humans to live on Venus.	❑	❑
❑	❑	5. One of the planets in our Solar System has continual storms.	❑	❑

Evidence: 1. _____

Evidence: 2. _____

Evidence: 3. _____

Evidence: 4. _____

Prediction Guides Examples

"Snake Predictor Sentences" Directions:

1. Respond to the statements in the PRE column before you read the selection. Use True and False.
2. Read the selection on pages 201-201. Find evidence to support or change your answers.
3. After reading the selection, respond to the statements in the POST column. Be sure to record your evidence.
4. We will discuss the statements together as a class and re-write any false ones to make them true.

Pre		**Post**
_____	1. Snakes are able to lay their eggs with a leathery shell only if they eat rats on a regular basis.	_____
_____	2. Snakes are the only animals that give birth to their young in embryo form.	_____
_____	3. A square is a rectangle.	_____
_____	4. Young snakes find their own food and protect themselves from enemies.	_____

Math—Chapter 9

Predict	Evidence	
_____	_____	1. Angles of a triangle have to be 90 degrees or less.
_____	_____	2. Angles of a triangle, when added together, equal 180 degrees.
_____	_____	3. A square is a rectangle.
_____	_____	4. A rectangle is a square.
_____	_____	5. To find the perimeter of any figure, you add the sides together, except in the case of a square, for which you multiply length times width.

Notes

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Opinion Guide

Part I: Read each statement and mark if you agree or disagree with it. Then read the article in our text, p. 332-334, "Free to Choose Education," by Milton and Rose Friedman. Mark if the authors agree or disagree with each statement. Provide two pieces of evidence from the article that support the authors' opinion on each statement.

You agree	You disagree	Author agree	Author disagree	
❑	❑	❑	❑	1. Parents should be given money by the government to send their children to any public, private, or religious school they choose. Evidence:
❑	❑	❑	❑	2. Taxes should be eliminated as a means of financing schools. Evidence:
❑	❑	❑	❑	3. Letting parents choose what schools they send their children to would result in greater racial harmony. Evidence:
❑	❑	❑	❑	4. The public schools have succeeded as a melting pot to bring together diverse racial, cultural, and economic groups. Evidence:
❑	❑	❑	❑	5. Competition will improve the public schools. Evidence:

Part II: What has happened to your original opinions as a result of reading the Friedman article and participating in our class discussion? Describe your position on this issue and your rationale for it.

Notes

Informational Text

16. Concept Question Chain

What is it?

The Concept Question Chain provides a framework for thinking and learning about text by developing a coherent set of questions that focuses on a specific concept. It is a set of questions, used for discussing narrative or expository text, that enables students to develop, learn, and apply a text-based concept. It is based on Gagne's (1970) premise that details are linked together to form concepts,and concepts are linked to form generalizations. It also supports the work of Vygotsky (1978) and Bruner (1971), which posits that learning is enhanced when students are provided with a framework, or "scaffold," for learning.

When this scaffolding strategy is used with different texts over an extended period of time, students learn to recognize the relationships among questions and can be encouraged to model similar questions as they read and think about text. The Concept Question Chain consists of three levels of questions: literal, interpretive, and applied. All questions in the Concept Question Chain are designed to help students discover the text-based concept and apply it to another situation. The overall goal is for the student, once the questioning is concluded, to understand and apply the concept learned in the text.

How to use it.

1. Determine the text selection to use, read the selection, and determine one important concept that students can develop from the text. There is usually more than one concept to be learned from any text, so the teacher simply chooses one she feels to be important. For example, in the text, "Deciding Who Shall Come," from Cobblestone magazine, the chosen concept was how immigration policy is affected by social, political, and economic needs that continuously change throughout history.

Notes

Notes

2. Use the text-based concept as a framework for writing literal, interpretive, and applied questions. Begin by designing questions for the interpretive level, as this level provides direction for developing the appropriate literal and applied questions; the latter should encourage students to think about the text-based concept in a broader perspective and to apply the concept beyond the text selection. Write questions that will cause the students to connect important information together and interpret it so they recognize the concept. When developing questions, remember that quantity is not as important as the "thoughtfulness" of each question.

3. Prepare students for reading by activating their background knowledge, introducing new vocabulary words, and setting the purpose for reading. Assign the reading to the students and ask them to focus on the selected concept. To help the learners fully understand the concept, provide an example of each type of question; this also provides the learner a guide for reading.

   For example, to pull forward prior knowledge about immigration, conduct a brainstorm discussion focusing on immigration. During this discussion, highlight key vocabulary words. Point out to the students the organizational frame used by the author. In "Deciding Who Shall Come," the author used the chronological sequence pattern to organize the writing. It is helpful to model for the students how to draw and use a time line to construct meaning from text.

4. Assign the reading to the students. Encouraging structured note-taking techniques, such as making a timeline to guide independent reading may assist in comprehension and in discussion of questions.

Notes

5. After the students have read the selection, the teacher leads a guided discussion using the questions developed at the three levels of thinking. During the discussion, the use of a displayed graphic organizer (such as a timeline) may be helpful. Some predetermined questions may need to be changed or deleted, depending on the flow of the conversation. The goal of the discussion is to help the students understand and apply the concept being learned.

6. Once the discussion is completed, ask students to personally reflect on the concept they learned. Students can reflect on the discussion content and the effective use of discussion skills. Possible reflections include
   - Defining the concept in their own words.
   - Sharing how they will apply the concept learnings in their own lives.
   - Discussing the questions that caused them to really think about and understand the concept.
   - Writing new questions that would be helpful in future situations.
   - Sharing examples of effective discussion skills that were used and suggesting one way to improve future discussions.

Adapted from Barbara E. Johnson, 1992

17. DRTA (Directed Reading/Thinking Activity)

Notes

What is it?

Moore, Readence, and Rickelman (1982) advocate the Directed Reading/Thinking Activity for promoting active comprehension in students. The Directed Reading/Thinking Activity for informational text reading is a procedure used to guide students to

- Activate prior knowledge about the topic to be read.
- Hypothesize about what might be addressed in the text.
- Establish purposes for reading.

When students read for established purposes, knowing how and why they are doing so, it is easier to revise predictions. Critical reading expertise develops as students continually refine their purposes and speculate about the nature and complexity of answers they find using both their prior knowledge and their background knowledge. As the student reads the passage, she is continually confirming, revising, and rejecting hypothetical statements developed about the reading. The teacher sets the climate for DRTA and directs the process by breaking the material into appropriate parts, but the students take the dominant role.

How to use it.

1. Students are given a particular passage to read. At the beginning of a chapter, unit, or article, students are asked to predict as to the nature of the work using prior experiences and background knowledge. Students also set purposes for reading. The chart below, titled "What Do You ..." helps focus a student's attention on meaning and creates a search to prove or disprove the prediction.

Notes

What do you ...
Know you know
Think you know
Think you'll learn
Know you learned

2. Next, students read and confirm, or reject predictions, then refine the hypotheses as new information is gathered.
3. Students end their reading by confirming or rejecting predictions, adding to prior knowledge, or by initiating further research.

Notes

18. FIRE

"When you give away some of the light from a candle by lighting another person's flame there isn't any less light because you've given some away, there's more. When everybody grows, there isn't less of anybody, there's more of and for everybody."

Kaleel Jamison
Author of The Nibble Theory and the Kernal of Power

What is it?

The FIRE (an acronym representing four stages to use when asking a question) strategy promotes in-depth thinking about an important topic, question or concept. The goal in education is to get all students turned on to learning—to kindle a fire within each learner. Teachers begin such a process by asking "thoughtful and elegant" questions. These are open-ended inquiries that create quality and depth in thought and which cause students to project their thinking into the future.

For example, which question causes greater quality and depth in thought for you? *"Why do you suppose the students acted that way in class?" or "How did your students' reaction during the lesson compare with what you had planned?"* The second question is more thoughtful; it does not put you on the defensive, but rather causes you to think about the situation; it kindles the little FIRE in the learner. Developing a thought-provoking question is only half of the process. How the question is asked can cause the fire to grow or can stamp it out.

How to use it.

1. Select a passage and develop a couple of thought-provoking questions that cause the students to project and apply the major concepts within the reading.
2. After the students have read a passage, share the FIRE strategy with them.

3. Formulate the question and write it on the chalkboard or chart paper so the learner can see it throughout the use of the strategy.
4. Internalize the question. Give the learner the needed think-time to visualize—to think about his ideas and response.
5. Record your ideas on paper. Writing ideas will help learners firm up their thinking.
6. Exchange ideas with a learning buddy to compare and contrast thinking. People learn by sharing ideas with others, by hearing their own ideas spoken out loud, and by hearing others' ideas.

Adapted from Hanson Silver Strong and Associates

Notes

Examples of Visual Representations

Kindling

F
I
R
E

When you give away some of the light from a candle by lighting another person's flame there isn't any less light becuase you've given some away, there's more.

When everybody grows, there isn't less of anybody; there's more of and for everybody.

Hanson Silver Strong and Associates

Notes

Notes

19. Graphic Organizers

What is it?

Graphic organizers provide a visual, holistic representation of facts and concepts and their relationships within an organized frame. They are effective tools for thinking and learning as they help teachers and students to

- Represent abstract or implicit information in more concrete forms.
- Depict the relationships among facts and concepts.
- Aid in organizing and elaborating ideas.
- Relate new information with prior knowledge.
- Effectively store and retrieve information.

The web, also known as a mind map or concept map, is the most widely used example of a graphic organizer.

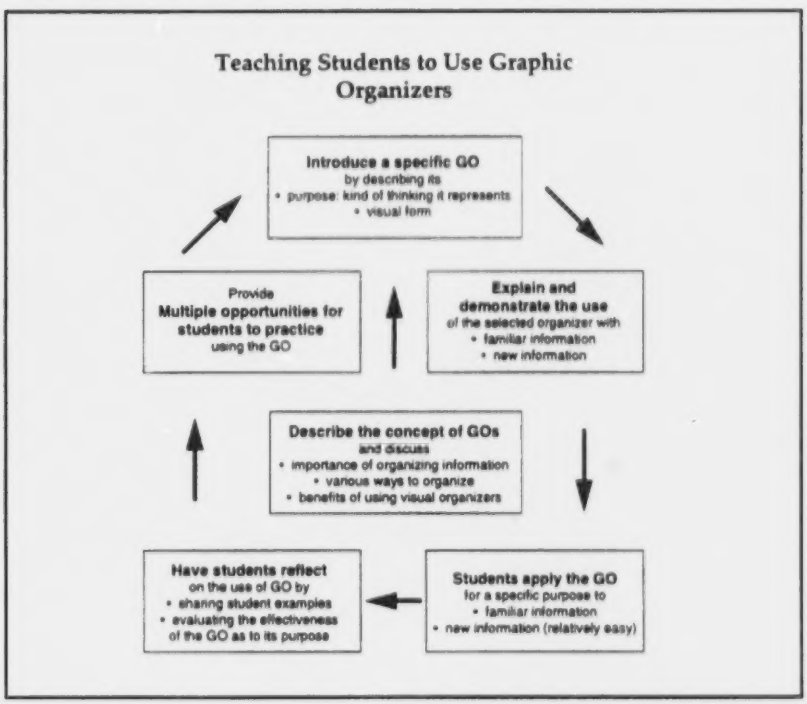
How to use it

1. Describe the concept of graphic organizer by discussing
   - The importance of organizing information.
   - Various ways in which people organize information.
   - The benefits of using a visual organizer.
2. Introduce a specific graphic organizer by describing its
   - purpose (e.g., a mind map for making a creative outline)
   - form (e.g., a center circle with straight lines shooting from it)
3. Explain and demonstrate the use of the selected organizer with
   - familiar information
   - new information
4. Let students apply the graphic organizer for a specified purpose to
   - familiar material
   - new material

5. Have students reflect on the use of the graphic organizer by
   - sharing student examples.
   - evaluating the effectiveness of the organizer according to the established purpose.
6. Provide multiple opportunities for the students to practice using the graphic organizer.
7. Encourage students to construct their own organizers.

Adapted from Jay McTighe

Examples of Visual Representations


Teaching Students to Use Graphic Organizers
Introduce a specific GO
by describing its
• purpose: kind of thinking it represents
• visual form
Explain and demonstrate the use
of the selected organizer with
• familiar information
• new information
Provide
Multiple opportunities for students to practice
using the GO
Describe the concept of GOs
and discuss
• importance of organizing information
• various ways to organize
• benefits of using visual organizers
Students apply the GO
for a specific purpose to
• familiar information
• new information (relatively easy)
Have students reflect
on the use of GO by
• sharing student examples
• evaluating the effectiveness of the GO as to its purpose

Adapted from Jay McTighe

Notes

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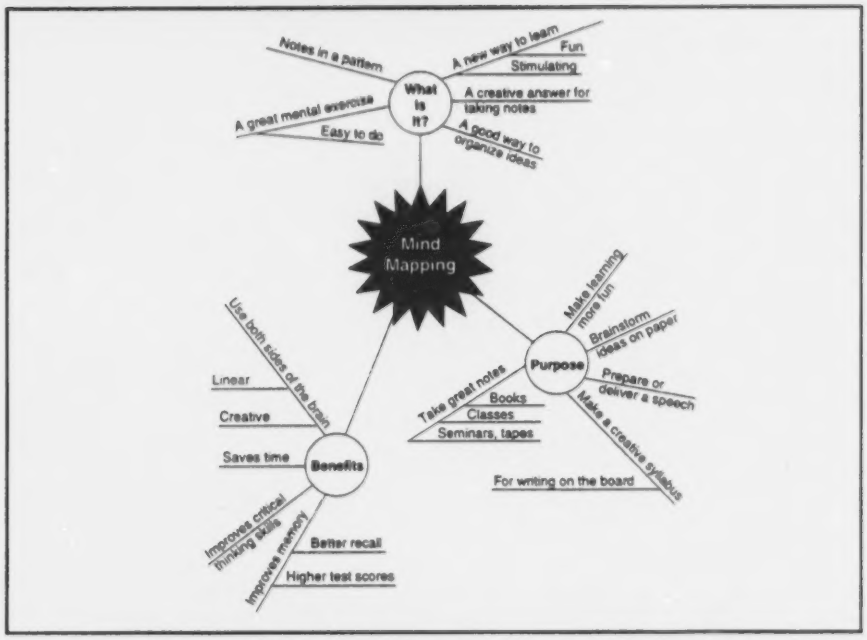
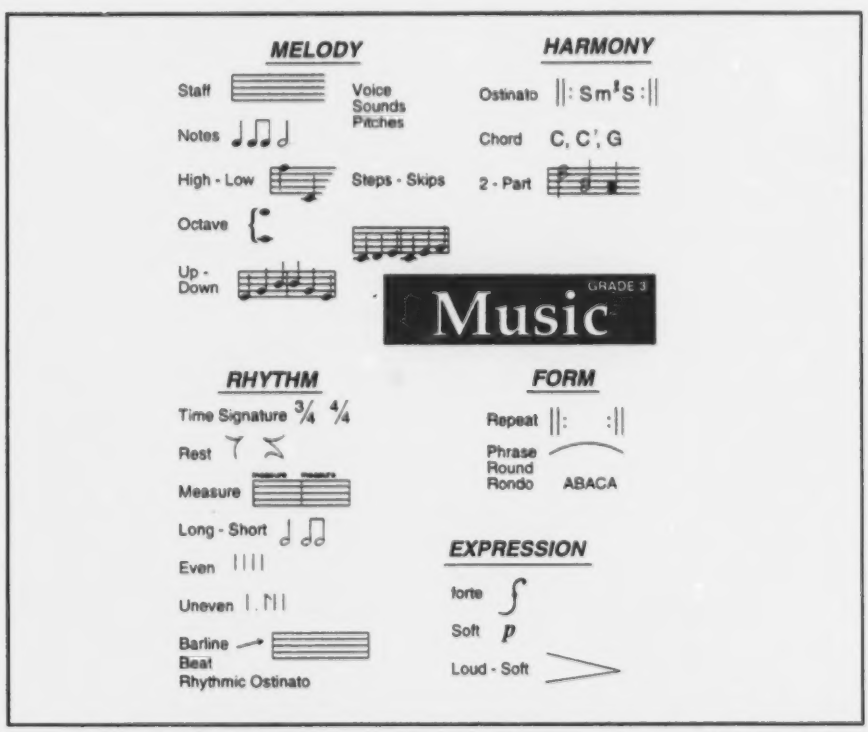


Heimlich and Pittelman, 1986. Reprinted with permission of the International Reading Association. All Rights Reserved.



Heimlich and Pittelman, 1986. Reprinted with permission of the International Reading Association. All Rights Reserved.

Notes

20. Group Summarizing

What is it?

Class summaries help learners review and remember information. Summarizing information requires readers to understand and condense information (Brown, Day and Jones, 1983). Summarizing is a sophisticated skill—one that will require a great deal of support and modeling by the teacher.

How to use it.

1. Prior to reading a selected topic, the class determines major topics on which to focus while reading. For example, if the reading is to be about penguins, students can focus on descriptions of penguins, information about food and homes, and interesting facts about penguins.
2. Next, divide the chalkboard or chart paper into four parts and label the sections "Description," "Food," "Home," and "Interesting Facts." These sections provide the students with a purpose for reading.
3. After the children have read the text, the teacher asks the class to volunteer information for each of the categories on the chalkboard, recording the information in sentence form. Class discussion is a key part of the process.
4. Class summaries are then developed from the recorded information. The summaries are written on each part of the chart for students to read.

Notes

Examples of Visual Representations

Sample Organizational Format for Group Summarizing Activity	
Description Nine-banded armadillos are about two feet long and weigh about fifteen pounds. They have strong claws for digging and a shell of hard, bony plates for protection.	**Food** Armadillos eat insects, earthworms, spiders, and landsnails by licking them up.
Home Armadillos live in a tunnel hole filled with leaves to keep them warm.	**Interesting Facts** Armadillos protect themselves by digging a hole or curling into a ball. They have four babies at a time that are all males or all females.

Olson and Gee, 1991. Reprinted with permission of the International Reading Association. All Rights Reserved.

Notes

21. Informational Paragraph Frames

What is it?

When children retell what they have read, comprehension is improved. Expository paragraph frames provide children with practice in retelling. Helping children develop schemata for expository paragraph structures enhances their retelling. Paragraph frames can be used to review and reinforce specific content and to familiarize students with the different ways in which authors organize material in order to inform. A variety of expository text structures have been identified.

How to use it.

1. The teacher creates a paragraph frame for the review of the content passage to be read.
2. Each child reads the selection and then retells the selection to a partner.
3. The teacher presents the paragraph frame to the students and asks them to fill in the missing information. Students are encouraged to discuss information not mentioned in the frame.

The skills and habits children acquire with primary-level content texts will help them as the number and diversity of textbooks increases in later grades. Specific teaching strategies have been described that teachers believe are helpful to primary children and have a research base or is soundly theoretical based (Olson and Gee, 1991).

Notes

Examples of Visual Representations

Sample Informational Paragraph Frames

Sequence frame (based on a passage about how cloth is made)

I learned many interesting things about how cloth is made.

First, I learned that_____

_____

Next, I learned that_____

_____

Third, I learned that _____

_____

As you can see, it is interesting to learn how cloth is made.

Contrast frame (based on a passage comparing oceans and lakes)

Oceans and lakes are different in several ways. They are different in size. Oceans are _____ than lakes. Their water is different, too. Ocean water is _____, while lake water is _____. Different kinds of fish live in oceans and lakes. _____ and _____ fish live only in ocean water while _____ and _____ fish live only in lakes. It is interesting to learn how oceans and lakes are different.

Olson and Gee, 1991. Reprinted with permission of the International Reading Association. All Rights Reserved.

Informational Frame example

From the title and subtitles of this selection (chapter), I believe that the major points will be _____. Examples that will be used to illustrate each point will be _____, _____, and _____.

Informational Text Frame example

The main idea of this selection is _____. The important ideas are (1) _____, (2) _____, and (3) _____.

Notes

22. What I Know; Want to Learn; Learned (K-W-L)

What is it?

Another strategy that helps children combine new information with prior knowledge to build concepts and vocabulary is K-W-L (Ogle, 1986, 1989). K-W-L includes opportunities for children to brainstorm, to preview vocabulary and concepts, and to retell what they have read. The strategy also creates purposes for reading the assigned text and allows the teacher to model for students what needs to occur with all reading assignments in the content areas.

How to use it.

1. The teacher draws three columns on the board or chart paper. These chart-paper examples can be kept and referred to throughout the reading. If the task is completed individually, children can receive a prepared form with the three columns labeled, or they can make their own.
2. During the first phase of the strategy, students brainstorm about what they *Know*, or think they know, about the main topic. For example, before reading a chapter describing toads, students would list the facts they already know about this topic. Those ideas are recorded in the K column. As the teacher records the children's contributions, he helps them organize the information into categories. These initial steps require children to access their prior knowledge and to think about content information before they read the assigned text.
3. Next, they list what they *Want* to know about the topic. Students list interesting questions that come to mind as a result of identifying what they think they know. For the topic of toads, students might ask: How long do toads live and what do they contribute to nature? What exactly is the process? How do toads protect themselves?

Notes

4. Students then read the chapter with an eye toward answering the questions they have posed. The last step in the K-W-L process is for students to identify what they have *Learned*. Here, students record the answers to their questions as well as other information they have learned. Sometimes students find out that what they thought they knew was inaccurate (Marzano, 1992).

Examples of Visual Representations

K-W-L Worksheet for a Science Selection on Toads

K What we know	W What we want to find out	L What we learned and still need to learn
1 small animal 1 gray 1 has a long tongue 3 jumps 3 spits poison 2 eats bugs 2 eats spiders **Categories** 1. description 2. food 3. what toads do	Are toads the same as frogs? If not, how are they different? Where do toads live in the winter? in the summer? How do toads protect themselves? How far can they jump?	

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K-W-L Chart

What I know	What I want to know	What I learned

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Notes

23. Pairs Read

What is it?

Pairs Read is a strategy that a teacher can use when she wants students to work cooperatively as they read and digest text. Students help each other increase their knowledge and understanding of the text by reading the text aloud to each other. While one student reads aloud, the other student listens and then summarizes what she heard as the main ideas.

How to use it.

Option 1

1. Select a passage for the students to read.
2. Arrange students into pairs with one being the coach and one being the reader.
3. The reader reads the first paragraph of the selected passage out loud to the coach.
4. After reading, the coach summarizes the main idea of the paragraph and discusses any supporting details necessary for understanding. The coach can ask the reader questions to help clarify the reading.
5. The students reverse roles, and the new reader reads the next paragraph to the coach.
6. The new coach summarizes the main idea of the paragraph and discusses any supporting details necessary for understanding.
7. Students continue reversing roles to read and summarize as they complete the passage.
8. Once the entire passage is read, the students cooperatively summarize the main idea and discuss the supporting details.

Notes

Informational Text

Option 2

1. Select a passage for the students to read.
2. Arrange students into pairs with one being the reader and one being the coach.
3. Students read the first paragraph, half of the passage, or the entire passage silently (the more difficult the material, the greater the need to break the reading of the passage into smaller chunks for understanding).
4. After the reading, the reader summarizes the passage for the coach. The role of the coach is to ask effective, probing, and clarifying questions.
5. Students reverse roles, read the next section silently, and the reader then summarizes for the coach with the coach asking questions.
6. The process continues until the entire passage has been read and summarized.
7. Once the entire passage is read, the students cooperatively summarize the main idea of the passage and discuss the supporting details.

Notes

24. Pre-Reading Plan

What is it?

The Pre-Reading Plan (PReP) (Langer, 1981) provides a framework for activating and extending prior knowledge.

How to use it.

1. Identify the central concept in the selection and introduce it to the students by saying, "What comes to your mind when you hear the word (or phrase) _____? (Example: Elephant)
2. Individually, have students write all of their associations, and then on the chalkboard make a composite list of all of the different responses (e.g., "zoo," "big," "ivory tusk").
3. Have students reflect on why each association was made by asking, "What made you think of _____?" (e.g., "I saw one when I went to the zoo.") As students explain what they know, a shared group-background knowledge is developed.
4. Conclude the activity by saying, "As a result of our discussion, can you think of any other information that you know about this topic?" (e.g., "They also live in jungles and at the circus.") This final step provides the opportunity for new insights based on the class discussion to be developed.

Notes

Examples of Visual Representations

Pre-Reading Worksheet

Title of selection:

Type of text:

Topic:

My purpose for reading:

What I know about this topic:

What I expect to read:

Student's Name _____ Subject _____ Date _____

Name of Topic, Chapter, Story, or Book _____ Page __ to Page __

LEARNING CHART

Before Reading What I already know ...	**??? Any Questions???**	**After Reading** What I have learned ...

Reading Service Center, Omaha Public Schools

Notes

25. Probable Passages

What is it?

Probable Passages (Wood, 1988) is a pre-reading technique that integrates prediction, summarization, vocabulary instruction, and story frames.

How to use it.

1. Select important terms and concepts from a story to be read.
2. Have the students categorize them according to the story elements of setting, characters, problems, events, and resolution. Then have each student write a probable story by using the words in each category and a frame similar to the following:

The story takes place _____.
_____ is a character who _____.
A problem occurs when _____.
After that, _____.
The problem is solved when _____.
The story ends when _____.

3. Have the students read the story and compare it to the version they predicted. Then have the students modify their predicted story to make it a summary paragraph.

Notes

Examples of Visual Representations

Probable Passages: A Reading-Writing Strategy

Setting	Characters	Problem	Problem-Solution	Ending

Adapted from Karen Wood, *The Reading Teacher*, February, 1984

Notes

26. Proposition/Support Outlines

What is it?

Proposition/Support Outlines (Buehl, 1995) help students become critical readers of material that presents viewpoints, opinions, debatable assertions, theories, or hypotheses. Proposition/Support writing places a special premium on analytical thinking abilities, which many students find especially challenging. Proposition/Support Outlines supply students with a framework for analyzing the types of justification an author supplies to support a proposition.

How to use it.

1. Initiate a discussion of the difference between "facts" and "opinions" in which you first brainstorm with students over a definition of each and then generate a list of actual examples of facts and opinions. The Omaha Royals baseball team is a farm team for the Kansas City Royals is a fact statement. The Omaha Royals is a great baseball team is an opinion that may or may not be supported by facts.
2. Introduce the term "proposition"—a statement that can be argued as true. Provide students with several possible propositions. For example: Nebraska is America's corn state; today's movies are too violent; the school playground needs new playground equipment; or, teen pregnancy is on the increase. Divide students into cooperative groups and assign each group the task of generating as many arguments as they can that might be used to support one of these propositions.
3. In large group sharing, help students categorize the types of arguments that could be used to support a proposition. Introduce, for example, a blank Proposition/Support Outline on an overhead transparency, and model with students how support for a proposition could be categorized as facts, statistics, examples, expert authority, logic, or reasoning.

Notes

Notes

4. Assign a text that follows a Proposition/Support frame of writing and have students complete the Proposition/Support Outline as they analyze the author's arguments. Select for student practice a text that features a clear proposition. Initially, it may be desirable to have students work in pairs to 1) identify the proposition, and 2) share how they used the clues in the text to determine it.

   Students then use the outline to categorize the arguments supporting the proposition. For example, an article on rain forests might contain information and arguments that are reflected in all five support categories.

5. Analyze with students the type of support presented. Ask the students questions such as "Does the author rely almost solely on logic, reasoning, and examples, neglecting to use statistics or other facts?" or, "Is only a single expert authority cited?" or, "Do the examples seem typical or atypical? What makes them that way?"

6. As students become confident using Proposition/Support Outlines, they may be asked to use them in a variety of contexts, such as in an investigation of different propositions possible from a textbook passage. For example, some students may read a passage on the Vietnam War to locate support for the proposition: "The U.S. did the right thing by sending troops to Vietnam." Other students may be asked to support the proposition: "The U.S. should not have entered the Vietnam war."

The Proposition/Support Outline is an excellent guide for independent research. It provides students with a framework for examining reference material for relevant information and arguments.

Examples of Visual Representations

Rainforests Proposition/Support Outline

Proposition: The loss of our rainforests will lead to an environmental disaster.

Support:

1. **Facts**
   - Rainforests consume carbon dioxide.
   - There is increased carbon dioxide in the earth's atmosphere.
   - The rainforests contain many endangered plant and animal species.
   - Deforestation leads to widespread soil erosion in many areas.
   - The burning of fossil fuels puts carbon dioxide into the environment.

2. **Statistics**
   - The 1980s were the "hottest" decade in the last 100 years.
   - One acre of tropical forest disappears every second.
   - 4 million acres (larger than the state of Connecticut) disappear every year.
   - 50 to 100 species are destroyed with each acre of forest cleared.
   - If present trends continue, half of the rainforests of Honduras and Nicaragua will disappear by the year 2000.

3. **Examples**
   - India has almost remaining rainforests.
   - Current plans target eliminating much of the Congo's rainforest.
   - Run-off from deforestation in Indonesia threatens coral reefs and diminishes the fish population.
   - Cutting of rainforests in Bangladesh and the Phillippines has led to killer floods.

4. **Expert Authority**
   - Computers predict doubling of carbon dioxide in the next century, raising temperatures 3 to 9 degrees.
   - The National Center for Atmospheric Research believes increased carbon dioxide will lead to the Greenhouse Effect and global warming.
   - Environmentalist expert Al Gore calls the Greenhouse Effect our most serious threat ever.

5. **Logic and Reasoning**
   - Warmer temperatures will harm crops and increase energy costs.
   - More people will starve because of less food and increased population growth.
   - The polar glaciers will melt and raise the sea level, flooding coastlines.
   - Many species useful to humans will disappear.
   - More sections of the world will become uninhabitable deserts due to soil loss from erosion, overgrazing, and overcultivation.

Buehl, 1995

Notes

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Rainforests Proposition/Support Outline

Proposition:	
Support:	**1. Facts**
	2. Statistics
	3. Examples
	4. Expert Authority
	5. Logic and Reasoning

Buehl, 1995

Notes

27. Question/Answer/Relationships (QAR)

What is it?

Question/Answer/Relationships (Raphael, 1984) is a framework to help readers relate prior knowledge to text information. It describes relationships, building comprehension through guided questions and their answers. Current research on schema theory, text structure, and metacognition finds that

- Fluent readers appropriately integrate their background knowledge with what the present text suggests.
- Readers seek, identify, and combine information from various places within the text to construct meaning.

  Four Question/Answer/Relationships are used in this strategy: "Right There," "Think and Search," "On My Own," and "Writer and Me."

Research shows that understanding the Question-Answer-Relationship framework increases student achievement.

How to use it.

1. Teach the students the four QAR strategies and how to tell the difference between them:
   - The first QAR strategy, "Right There," involves a question that has the answer explicitly stated in the story. The answer is within a single sentence.
   - The second QAR, "Think and Search," also involves a question that has an answer in the story, but this answer requires information from more than one sentence or paragraph.
   - The third QAR, "On My Own," represents a question for which the answer must be found in the reader's own background knowledge.

Notes

- The fourth QAR, "Writer and Me," represents a slightly different interpretive question. The answer might be found in the reader's own background knowledge, but would not make sense unless the reader had read the present text.

2. The teacher models the QAR process:
   - Reads the text selection.
   - Asks a question about the selection.
   - Considers and states the answer.
   - States the QAR.
   - Gives explanation for the choice.

3. Four principles of instruction when teaching QARs:
   - Give immediate feedback.
   - Progress from shorter to longer texts.
   - Build independence by guiding students from group to independent activities.
   - Provide transition from the easier task to the more difficult.

Notes

28. RAFT-Role/Audience/Format/Topic

What is it?

The RAFT strategy (Santa, 1988) is one technique that uses writing skills to enhance what students learn from reading informational text. The strategy is one way for student writers and their teachers to keep the appropriate audience in focus. RAFT is an acronym which stands for

- **Role** of the writer. What is the writer's role: reporter, observer, eyewitness?
- **Audience**. Who will be reading this writing: the teacher, other students, a parent, people in the community, an editor?
- **Format**. What is the best way to present this writing: in a letter, an article, a report, a poem?
- **Topic**. Who or what is the subject of this writing: a famous mathematician, a prehistoric cave dweller, a reaction to a specific event?

When teachers are clear about the purpose of the writing, and students keep RAFT in mind, the product will be clearer and more focused. The RAFT strategy forces students to process information rather than merely write out answers to questions. Students are more motivated to undertake the writing assignment because it involves them personally and allows for more creative responses to learning the material.

How to use it.

1. Analyze the important ideas or information that you want students to learn from reading a story, a textbook passage, or other material. Consider how a writing assignment will help to consolidate this learning. How might writing help students remember the stages of the digestive system, or understand the frustrations of slaves before and after the Civil War? This focus establishes the topic for the writing.

Notes

2. Brainstorm as to possible roles students could assume in their writing. For example, a student in a science class could imagine she was a french fry that was describing what was happening to it during each stage of the digestive process. A student studying the Civil War could assume the role of a freed slave living in the North upset with slavery.

3. Next decide who the audience will be for this communication and determine the format for the writing. For example, the french fry could be writing in the format of a travelogue, to be read by other french fries headed toward the digestive system. The freed slave could be writing in the form of a petition for other outraged slaves.

4. After students have completed the reading, write RAFT on the chalkboard and list the role, audience, format, and topic for the writing. All students could be assigned the same role for their writing, or you may offer several different roles from which to choose.

Notes

Examples of Visual Representation

Examples of RAFT Assignments

Role	Audience	Format	Topic
Newspaper reporter	Readers in the 1870s	Obituary	Qualities of General Custer
Lawyer	U.S. Supreme Court	Appeal speech	Dred Scott Decision
Abraham Lincoln	Dear Abby	Advice column	Problems with his generals
Mike Royko	Public	News column	Capital punishment
Frontier woman	Self	Diary	Hardships in West
Constituent	U.S. Senator	Letter	Gun control
Newswriter	Public	News release	Ozone layer has been formed
Chemist	Chemical company	Instructions	Combinations to avoid
Wheat Thin	Other Wheat Thins	Travel guide	Journey through the digestive system
Plant	Sun	Thank-you note	Sun's role in plant's growth
Scientist	Charles Darwin	Letter	Refute a point in evolutionary theory
Square root	Whole number	Love letter	Explain relationship
Repeating decimal	Set of rational numbers	Petition	Prove you belong to this set
Cook	Other cooks	Recipe	Alcoholism
Julia Child	TV audience	Script	Wonders of eggs
Advertiser	TV audience	Public service announcement	Importance of fruit
Lungs	Cigarettes	Complaint	Effects of smoking
Huck Finn	Jim	Letter	What I learned during the trip
Joseph Stalin	George Orwell	Letter	Reactions to *Animal Farm*
Comma	9th grade students	Complaint	How it is misused
Trout	Self	Diary	Effects of acid rain on lake

Buehl, 1995

Notes

29. Reciprocal Teaching

What is it?

Reciprocal teaching (Palinscar and Brown, 1985) is a powerful strategy which causes students to interact with challenging material. Reciprocal teaching is a dialogue between the teacher and the students or between students in small groups. The skills of summarizing, questioning, clarifying, and predicting are used. Through the use of these four skills, the students learn how to set goals for reading, how to critically evaluate and monitor themselves, and how to find the main idea in the text. The teacher initially models the interactive dialogue, and engages in the same activities with the students following her example.

How to use it.

1. The teacher gives an overall description of reciprocal teaching and an explanation of the four strategies to be used. The explanations should include these major points:
   - Summarizing gives the student the opportunity to identify and integrate the most important information in the text. The students begin by summarizing sentences, and with time and practice, progress to summarizing paragraphs and passages.
   - Question-Generating involves students in thinking about what they don't know, need to know, or would like to know about a passage. They can teach themselves to ask questions in which they must infer and apply new information from the text. Generating questions helps to promote purposeful reading.
   - Clarifying emphasizes that the goal of reading is to make sense of the text. Various factors, such as new vocabulary, unclear referent words, or difficult concepts, may make a

Notes

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text very hard to understand. When students ask for clarification, they become more aware of potential barriers to comprehension, such as unfamiliar concepts.

- Predicting requires students to utilize given information and background knowledge to form a hypothesis about where the text "is going." Reading to support or reject their hypothesis becomes a significant purpose. The students learn that text structures provide clues as to what might happen next, through the use of headings, subheadings, and questions imbedded in the text.

  When introducing reciprocal teaching, these four strategies are directly presented, explained, and modeled by the teacher.

2. The students should be given one day of practice for each of the four skills. For example, the students may practice summarization by addressing their favorite movies or television shows. Then they use the text to identify the main ideas in sentences, paragraphs, and, eventually, passages. The same type of instruction should be repeated for all of the skills.

3. After the students have been introduced to each of the skills, the teacher begins to introduce the students to the actual dialogue. On the first day of instruction, the teacher models reciprocal teaching. It is important that he calls on every student to participate at some level.

4. As the students become more familiar with the procedure, the teacher turns over the responsibility for the dialogue to them. He then becomes a coach and provides the students with evaluative information, prompting them to more and higher levels of participation.

Notes

5. When students are ready to assume responsibility for reciprocal teaching, the teacher assigns a passage of approximately 1,500 words in length.

6. If the passage is new to the students, the teacher calls the students' attention to the title and asks for predictions based on the title. If the passage is familiar to the students, the teacher asks them to state the topic and important points.

7. The teacher assigns a portion of the passage to be read silently.

8. The teacher proceeds first to ask a question about this segment, then summarizes and offers a prediction and clarification when appropriate.

9. The adult teacher provides the guidance necessary for the student teacher to complete the preceding activities through a variety of techniques:
   - **Prompting:** "What question did you think a teacher might ask?"
   - **Instruction:** "Remember that a summary is a shortened version; it doesn't include extensive detail."
   - **Modifying the activity:** "If you're having a hard time thinking of a question, why don't you summarize first?"
   - **Soliciting help of other students:** "Who can help us out with this one?"

10. The remaining members of the group are invited to comment on or supplement the segment discussed.

30. SQ3R (Survey, Question, Read, Recite, & Review)

What is it?

The SQ3R strategy (Robinson, 1961) helps learners understand and recall what they read. It is a five-step study plan to help students organize their approach to study and become more effective readers. The SQ3R strategy uses all elements of active reading: questioning, predicting, setting purposes and monitoring and evaluating comprehension.

How to use it.

1. Survey
   - Think about the title: "What do I know? What do I want to know?"
   - Glance over headings and/or skim the first sentences of paragraphs.
   - Look at illustrations and graphic aids.
   - Read the first paragraph.
   - Read the last paragraph or summary.

2. Question
   - Turn the title into a question.
   - Write down any questions that come to mind during the survey.
   - Turn headings into questions.
   - Turn subheadings, illustrations, and graphic aids into questions.
   - Write down unfamiliar vocabulary and determine the meaning.

Notes

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3. Read actively
   - Read to search for answers to questions.
   - Respond to questions and use context clues for unfamiliar words.
   - React to unclear passages, confusing terms, and questionable statements by generating additional questions.

4. Recite
   - Look away from the answers and the book to recall what was read.
   - Recite answers to questions aloud or in writing.
   - Reread text for unanswered questions.

5. Review
   - Answer the major purpose question.
   - Look over answers and all parts of the chapter to organize information.
   - Students summarize the information learned by drawing flow charts, writing a summary, participating in a group discussion, or by studying for a test.

31. Search Strategy

What is it?

The Search Strategy is used when students are asked to research a topic. When using this strategy to do research, the project should focus on a question to be answered rather than on a general topic. This comprehensive strategy will stimulate students to find answers to questions they have generated from their reading.

How to use it.

1. Select a specific topic of interest to study.
2. Establish what students know, think they know, and want to know about the topic. Write the three categories on chart paper or the chalkboard. Have them work individually first, then in small groups to stimulate ideas. Record ideas in the three categories. Encourage participation from all students and develop confidence by suggesting they know more than they realize.
3. Ask questions to raise curiosity and to challenge students by asking for more specific information when they share their ideas about the topic.
4. Read resource material to verify what they know and think they know, to answer questions, and to raise new questions.
5. Come together like scholars; share and review responses in small groups.
6. Have a large group discussion to share learnings, and to identify unanswered as well as new questions for further research.

Notes

Examples of Visual Representations

Search Strategy

S	
E	
A	
R	
C	
H	

Adapted from Hanson Silver Strong and Associates

Notes

32. Semantic Mapping

What is it?

Semantic mapping emphasizes brainstorming and previewing vocabulary. It encourages vocabulary and concept development by graphically displaying words in categories in order to show how they are related to one another (Johnson, 1984). Active student involvement and the use of lively discussion skills are critical components of semantic mapping. Semantic mapping can help learners activate prior knowledge and relate it to the topic about which they will be reading, link the new information with the old, and retain and transfer knowledge.

How to use it.

1. Review the passage, and select a word that represents the major concept or theme of the section or chapter.
2. Write the concept or theme word on the chalkboard or chart paper.
3. Ask all learners to think of words related to the concept and then list them in categories.
4. Students share their categories and words, recording them in web fashion around the major concept word. Students can share in small groups or as one large group. The semantic maps created in the small groups are shared to make one large semantic map. The teacher adds missing words necessary to understand the passage.
5. As words are recorded on the semantic map, questions are asked of the students such that they explain their thinking, rationalize their beliefs, and make connections with prior knowledge. This type of discussion about a concept's aspects causes a more comprehensive understanding of the passage to be read.

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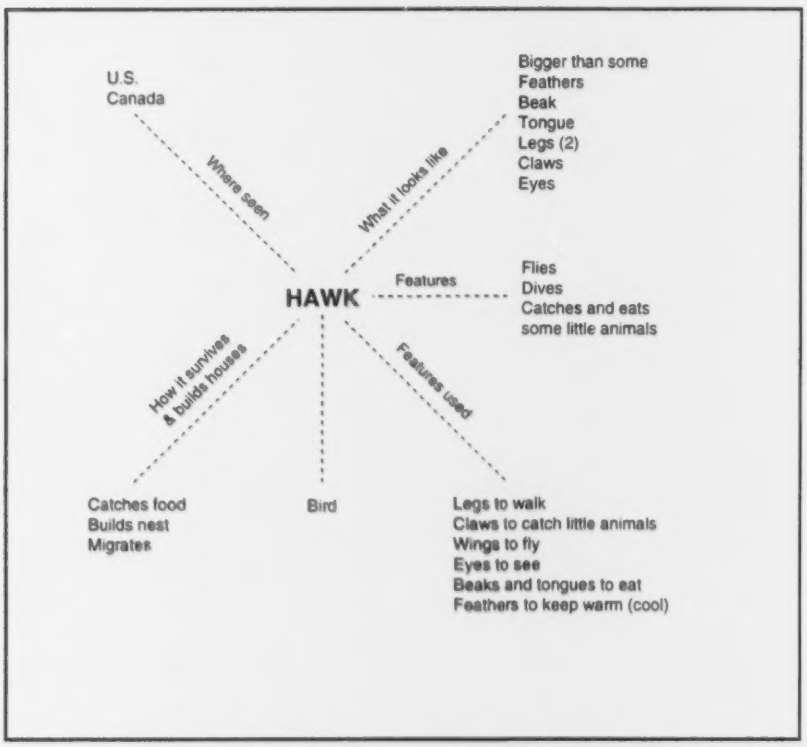
6. After the map is completed and the reading selection is read, new information may be added to the map. Adding the new words with different colored print helps to highlight new learnings.

Examples of Visual Representations



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Notes

33. Story Mapping

What is it?

An informational text map is a verbal picture of ideas as they are organized and symbolized by the reader. It is a holistic representation of the text, simultaneously showing all of the related parts. Informational maps assist the student in linking new information to prior knowledge and familiarize the student with the structure of the passage to be read.

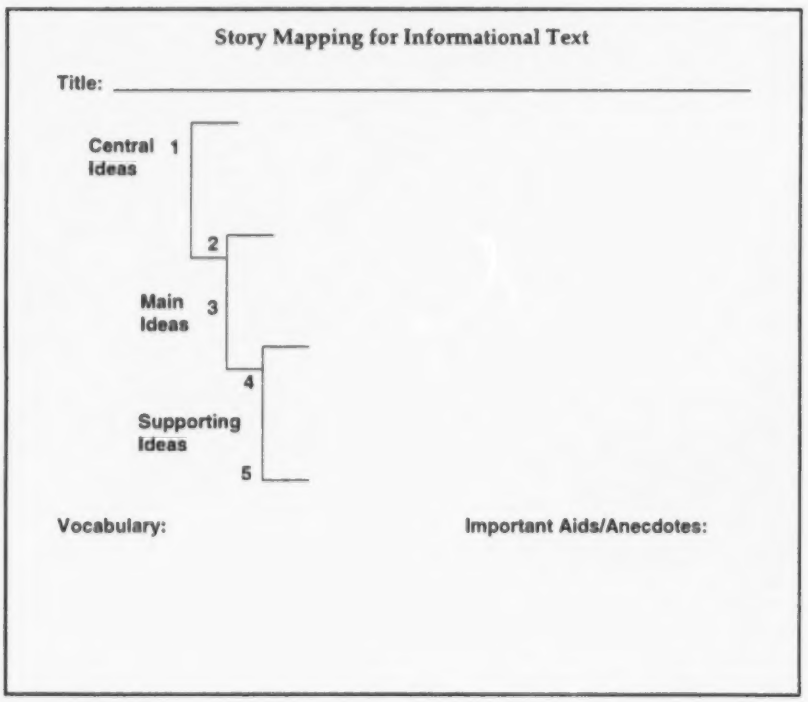
How to use it.

1. Read the text to develop a holistic understanding of the selection.
2. Read the text a second time in a more detailed manner. The title is placed in level 1 of the map.
3. Begin with the first paragraph. As it is read, only the important ideas are translated into concepts or concept phrases.
4. Ask yourself how the concept phrase is related to the preceding information. If the information is more general, it should be placed below the previous information. In some cases, the information will be at the same level. Just because a concept appears next in a sequence, one does not necessarily place the concept next to the preceding concept. Always use the author's intended meaning as the criterion.
5. Identify the relational link that connects the concepts. Insert the link within a parentheses between two concepts.
6. Read until you have identified the next important concept. Repeat steps 4 and 5. All subtitles should be used.
7. Look at the completed informational map. If all relationships between and among concepts are not meaningful, they should be eliminated. Remember, there are only five levels to a concept map. Information that falls below the fifth level should not be included.

Notes

8. Difficult vocabulary words that relate to the central purpose should be listed.
9. Important visuals such as graphs, maps, and pictures should be listed with page numbers included and marked with an asterisk in the map.

Examples of Visual Representations



Notes

Story Mapping Informational Text

Story Map

Characters

Events of the Story

Main Idea

Notes

34. Structured Notetaking

What is it?

Structured Notetaking (Smith and Tompkins, 1988) is a strategy that assists students in taking more effective notes. Information and ideas are represented through a graphic organizer. The visual framework provided by a graphic organizer helps students with deciding on what should be included in their notes. The visual framework also assists students with retention of their notes. Structured notetaking can be used with lecture or video presentations, with printed information, and with class discussion.

How to use it.

1. The teacher previews the information the students will be taking notes from in order to identify the organizational frame used by the author. Eight organizational frames described earlier in the manual can be used when presenting information:
   - cause and effect
   - chronological sequence
   - comparison and contrast
   - concept/definition
   - description
   - goal/action/outcome
   - problem and solution
   - proposition/support

2. Next, create a graphic organizer that follows the organizational frame identified.

   Give each student a copy of the graphic organizer to use as a notetaking guide when learning from the information presented. The students take notes by recording relevant information in the appropriate spaces in the graphic outline. For example, if students are learning about the problems of

Notes

Native Americans and of African Americans, a problem-solution organizational frame might be used. As students read the selection they would record the appropriate information in the graphic organizer.

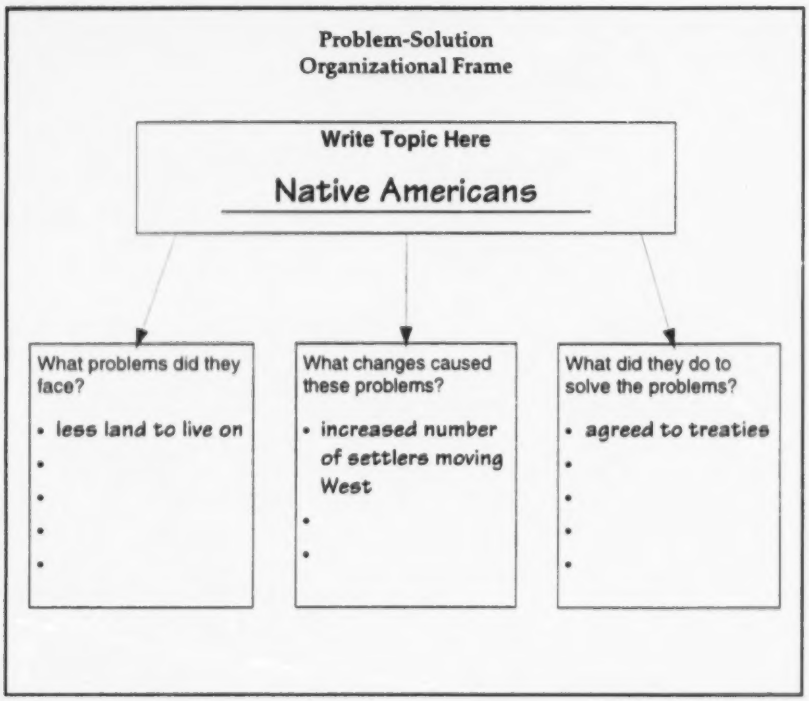
3. For students to be successful, the teacher needs to model the structured notetaking for each graphic organizer. Before students begin completing the structured notes, it is important to discuss the specific organizational frame being followed. Highlighting the text frame each time it is used assists students in recognizing these eight organizational frames. The goal is to get students to recognize the organizational frames on their own.

4. When structured notetaking is first introduced to students, allow them to work in pairs and to collaborate on their notetaking while reading a passage. As part of this process, students justify to their partners their decisions on what to select and where to place it in the graphic outline.

5. As students develop confidence with the Structured Notetaking strategy they will begin to develop their own graphic organizers to structure their notes. Also, students will enjoy learning different notetaking structures from their peers; as a result, students will begin to understand the many different ways of interpreting and learning from text.

Notes

Examples of Visual Representations


Problem-Solution
Organizational Frame
Write Topic Here
Native Americans
What problems did they face?
• less land to live on
What changes caused these problems?
• increased number of settlers moving West
What did they do to solve the problems?
• agreed to treaties

Notes

35. "Think alouds"

What is it?

"Think-alouds" makes thinking public. In "think-alouds," teachers make their thinking explicit by verbalizing their thoughts while reading orally. It involves modeling or demonstrating how the teacher performs a task or how she thought about that task. Davey (1983) explains that this method helps readers clarify their understanding of reading and their understanding of how to use strategies. Students will more clearly understand the strategies after a teacher uses "think-alouds" because they can see how a mind actively responds to thinking through trouble spots and to constructing meaning from text. When students, especially less-proficient readers, are provided with models and explanations for the reasoning involved in reading, they are better able to use the modeled strategies on their own. While "think-alouds" can help students understand text, students need guided practice with feedback to become familiar with the hows, whens, and whys of self-regulation.

How to use it.

1. Explain that reading is a complex process involving thinking and reasoning. When reading a passage, the reader's mind is alive with questions that help her understand the passage. The "think-alouds" strategy makes that thinking and reasoning explicit.
2. Select a passage to read aloud that contains points of difficulty, contradictions, ambiguities, and unknown words. Develop questions the reader can ask himself that will guide him through the reading.

Notes

Notes

3. Read the short passage aloud with students reading silently. While orally reading, model thinking aloud to construct meaning from the passage and to resolve comprehension difficulties. Model asking a variety of questions that encourage thinking and understanding.
4. Choose specific instances when students' comprehension lags and model coping strategies for them. Examples include
   - Making predictions/making hypotheses: "I predict there will be a lenient immigration policy by the year 2010."
   - Forming pictures mentally: "I am picturing people from other countries coming to the United States."
   - Creating analogies (linking prior knowledge to new information in the text): "I wonder if this is like the time we had exchange students come to our school?"
   - Verbalizing confusing points: "I don't understand the word xenophobia."
   - Using fix-up strategies: (correcting lagging comprehension) "Maybe I will reread this section," or "Maybe reading this section aloud will help me understand."
5. Have students work with partners to practice "think-alouds" by taking turns reading short, carefully prepared passages and by sharing thoughts. Have students develop questions that guide their reading and share them with the class.
6. Have students practice independently, using a checklist to assess progress.
7. Integrate the practice with other lessons and provide occasional demonstrations to provide for transfer and maintenance of strategy use.

Notes

Examples of Visual Representations

Assessing My Use of the "Think-alouds" Strategy

While I was reading, how much did I use these "think-alouds" coping strategies?

	Not much	A little	Most of the time	All of the time
• Making predictions				
• Forming pictures				
• Creating analogies				
• Verbalizing confusing points				
• Using fix-up strategies				

36. Visual Imagery

What is it?

"A picture is worth a thousand words." Most prior experiences are represented in images of specific events. Visual images help children link their prior experiences to new ideas, thus building richer schemata for new learning. Many young learners engage in spontaneous imaging, judging from their fantasy play. They also may be able to recall images in response to the prompting of key words in a text. However, if the teacher further prompts students by discussing how to relate the images to form concepts within the text, their comprehension will improve.

How to use it.

1. Choose a content selection for developing a visual image with the students (e.g., how wool was used to make cloth).
2. Discuss with the students what the text is about.
3. Have the students read the selection silently, visualizing each step of the process for making cloth from wool. Examples might include shearing the sheep; washing, carding and spinning the wool into yarn; and weaving the yarn to make cloth.
4. Read the passage aloud to the class, thinking aloud about the images that come to mind. Examples might include images of wool being processed in the home, the slowness of the process, the lack of power tools to do the work, and the family pride in making clothes.
3. Have the children share their visual images of the selection.

Notes

37. Community Circle

What is it?

The community circle is a form of discussion, especially for young children, that promotes active listening skills.

How to use it.

1. Enlist and record on chart paper active listening skills.
2. Have the students sit in a large circle so all students can see each other.
3. The leader, who will be the teacher as the students are learning the structure, starts Community Circle by stating an open-ended sentence, such as

   I like the TV program _____ because _____. The most important thing I learned in this unit of study was _____.

   Everyone takes a minute to think of an ending answer that expresses their own likes, dislikes, feelings, or knowledge of the topic. The leader completes the sentence first and the turn passes to the right until all students have contributed. If any student cannot think of an answer when it is their turn, they may say, "Pass." After students shared their ideas, remember to go back around the circle and give the students that passed a chance to speak. Students continue to share until all members of the group have passed. All students are expected to share one idea.
4. Reflect on the use of active listening as a large group. Students might be encouraged to reflect, through journal writing or drawing, areas of strength when listening, areas needing improvement, and what to do in order to improve.

Adapted from Lorna Curran,
Cooperative Learning Lessons for Little Ones

Notes

38. Creative Debate

What is it?

The creative debate strategy promotes debate, creative thinking, and thinking from different perspectives. Students debate a topic from a story character's point of view.

How to use it.

1. Divide the class into thirds. Have one third of the class turn their chairs to face another third of the class for the debate. The other class members are observers. An alternative strategy is to have observers collect data for students involved in the debate. Effective debate criteria are established in advance with all students.
2. Decide on a relevant topic to discuss. Clearly define the topic and outcome (e.g., fighting in the Vietnam war, or bombing Pearl Harbor.
3. Ask row 1 to take a position in support of the topic and row 2 to take the opposite point of view.
4. Each student selects one character from the past, present, or future who supports the position the student has taken, either for or against the issue. The student debates the topic from that character's point of view and may take on the character's mannerisms, posture, or voice.
5. Have each student involved in the debate introduce him or herself as the character to the rest of the class.
6. The student does not have to agree with the viewpoint he is asked to represent.
7. Students debate from their character's point of view for ten minutes. Reverse roles if appropriate or have one row of students become the observers and the observers take a position. Debate for another five to ten minutes.

Notes

Discussion Strategies

8. Process the activity. Have the observers share the data they collected. Reflective questions might include, "How difficult was it to share information from a different perspective?" "Why was it difficult and what did you learn?" "What might you do differently the next time?"

Notes

39. Discussion Web

What is it?

The Discussion Web gives all students an opportunity to assume responsibility and share their own ideas in discussion, not just the verbally talented students. It is tailored after McTighe and Lyman's (1988) think-pair-share discussion cycle. In the Discussion Web, all students think individually about the items they want to share in the discussion and then must share their ideas with a partner. This private think time promotes total class involvement and honors the wait time necessary for developing insightful thoughts to share. Student accountability is also included by having students share their thinking with each other. The Discussion Web incorporates all four areas of language arts: listening, speaking, reading, and writing; it can be used anytime during the learning process—as a prereading activity, a postreading strategy, or to help students organize their ideas while reading a selection.

How to use it.

1. Prepare students for reading by activating their background knowledge, introducing new vocabulary words, and setting the purpose for reading. For example, students will read two *Jack and the Beanstalk* versions by Tim Paulson: *Jack and the Beanstalk* and *The Beanstalk Incident*. To pull forward prior knowledge, ask the students the following question, "What characteristics might make a person do mean things?" then discuss their thoughts. Introduce any difficult vocabulary words during this discussion so the words are used within the context of the story being read. Explain that the purpose of reading each story is to determine if the giant was a mean giant. Students will construct support for both positions.

Notes

Discussion Strategies

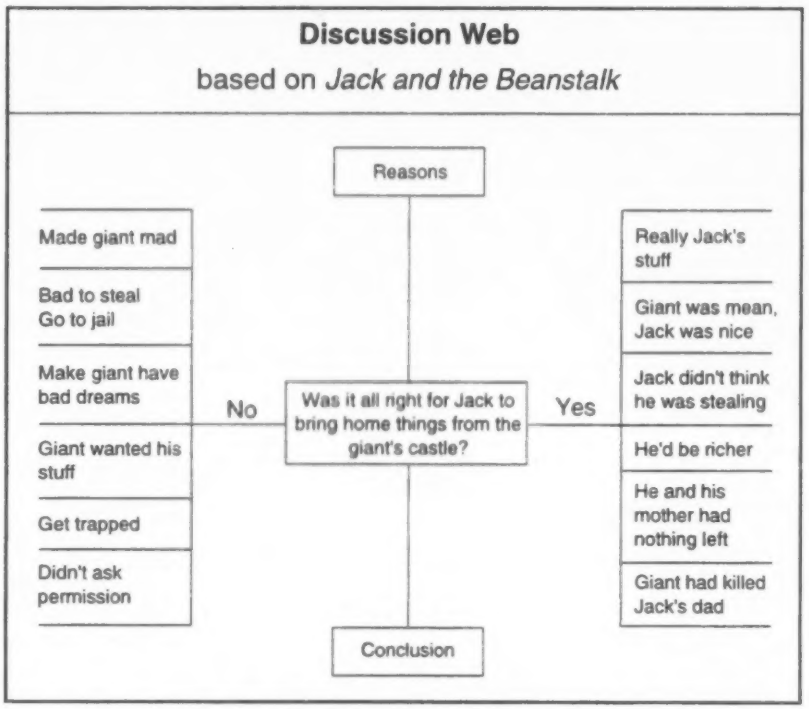
2. Have the students read the selection(s) to themselves to determine the purpose in the reading. For example, after they have read both versions of Jack and the Beanstalk, they decide purpose: whether or not the giant was a mean giant. Introduce the Discussion Web with the question, "Was the giant mean?" written in the middle. Explain to the students that they will have to construct support for both viewpoints by citing specific reasons. Give each student wait time to construct their own reasons for each viewpoint. Encouraging students to write one or two ideas down ensures participation by all.
3. Pair each student with a partner to share their written ideas. Ask them to continue to discuss reasons for each viewpoint and to take turns writing down their ideas on the Discussion Web in Yes/No columns. Give them five to ten minutes to write their reason. The teacher monitors each pair while listening for effective discussion skills.
4. Pair one set of students with another set of partners. Ask the group of four students to compare their Yes/No reasons for "Was the giant a mean giant?" The goal here is to work toward a conclusion. Once students have compared notes and added any new ideas to their web, they form a conclusion to share with the class. They decide if the giant was or was not mean and the major reason for that decision. They write this statement at the bottom of their web under Conclusion. One person is selected to share the group's conclusion.
5. Call on each spokesperson to report for their groups as part of the whole class discussion. After each person has shared their group's conclusion, the discussion can be opened up for further discussion by all members. The teacher monitors for effective discussion skills.

Notes

Notes

6. As a follow-up activity, have the students individually write their own conclusion and their reasons for it on the Discussion Web question section. Also, have the students reflect on the specific discussion skills they used throughout the activity; also, reflecting on strengths and areas of improvement is helpful. This final writing helps the learners bring closure to the Discussion Web.

Examples of Visual Representations


Discussion Web
based on Jack and the Beanstalk
Reasons
Made giant mad
Bad to steal
Go to jail
Make giant have bad dreams
Giant wanted his stuff
Get trapped
Didn't ask permission
No
Was it all right for Jack to bring home things from the giant's castle?
Yes
Really Jack's stuff
Giant was mean, Jack was nice
Jack didn't think he was stealing
He'd be richer
He and his mother had nothing left
Giant had killed Jack's dad
Conclusion

Example with slight adaptations from Alvermann, 1991

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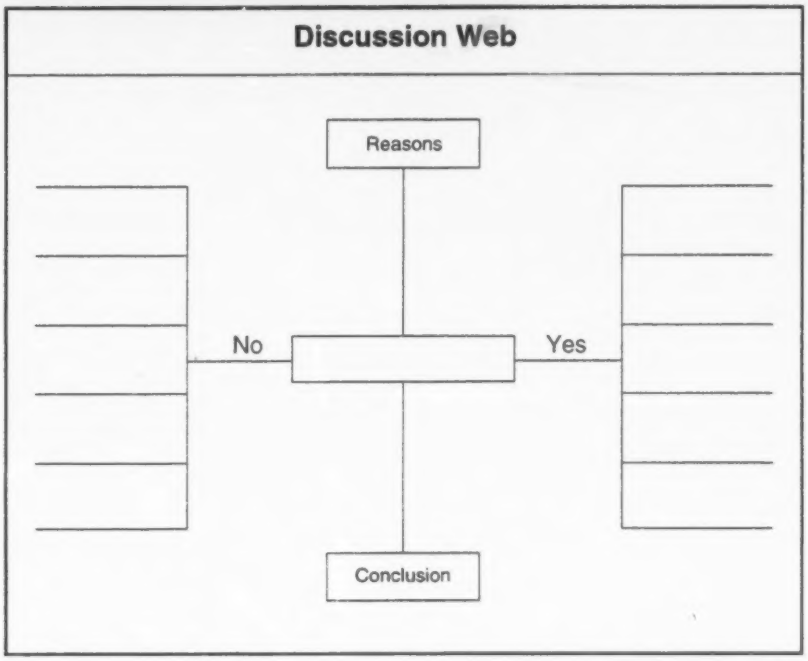

Alvermann, 1991
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Notes

40. Scored Discussion

What is it?

The Scored Discussion is a fishbowl environment in which a small group of students carry on a content-related discussion while classmates listen. The content of the discussion is organized through the use of a discussion agenda. Monitoring the discussion process is the responsibility of the students in the discussion group. Meanwhile, the teacher and the rest of the class sit outside the fishbowl and score individual contributions to the discussion. Students are awarded points for contributing relevant information, using evidence, asking clarifying questions, making analogies, and encouraging other group members to participate. Negative points are assigned for interruptions, irrelevant comments, and personal attacks. At the conclusion, the teacher and observing students provide feedback to discussion members about their level of understanding of the content and about the discussion process.

How to use it.

1. Determine the criteria and or/indicators of a successful discussion. Record the criteria on chart paper to be referred to during discussion.
2. Select materials that promote an issue (written or visual).
3. Create an agenda for the successful performance of the criteria.

   Example: Define the problem or issue. What position does the writer of the article take on the issue? Decide how that position agrees or disagrees with your own.
4. Teach the strategy.
   - Explain the criteria.
   - Stress appropriateness rather than quantity, and establish maximums.
   - Allow student observation time to demonstrate objectivity.

Notes

Discussion Strategies

- Score all students.
- Provide feedback.
- Hold all students accountable.

Adapted from Fred Newmann, University of Wisconsin

Examples of Visual Representations

Discussion Score Sheet

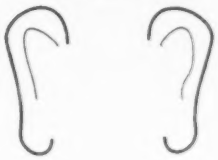
Class _____ Topic _____

Positive		Points	Negative		Points
(2)	1. Taking a position on a question	____	(-2)	1. Not paying attention or distracting others	____
(1)	2. Making a relevant comment (Max)	____	(-2)	2. Interruption	____
(2)	3. Using evidence to support a position or presenting factual information	____	(-1)	3. Irrelevant comment	____
(1)	4. Drawing another person into the discussion	____	(-3)	4. Monopolizing	____
(2)	5. Recognizing contradictions in another person's statements	____	(-3)	5. Personal attack	____
(2)	6. Recognizing when another person makes an irrelevant comment	____			
(2)	7. Making an analogy	____		Points	_____
(1)	8. Asking a clarifying question or moving the discussion along	____		Grade	_____

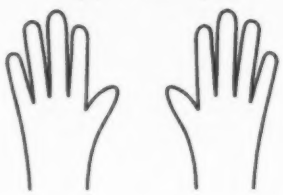
Notes

Look!
Look at the speaker.

Listen!
Listen to what is said.



Quiet Hands!
Keep your hands quiet.



Teacher's Role in Community Circle

1. Select the criteria
2. Overview the lesson
3. Teach active listening
4. State the community circle topic
5. Honor the right to pass
6. Process active listening

Adapted from Fred Newmann, University of Wisconsin

Notes

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Teaching Reading in the Content Areas

IF NOT ME,
THEN WHO?

by Rachel Billmeyer, Ph.D.

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